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ABSTRACT

Presented in table and graph form are the laboratory test performances of 1965-1976 gifted high school graduates. In a review of the test used, it is reported that test performances of 128 1961 graduates were used to develop the test battery which included the Wisconsin Inventory for Talented Students (WITS)-Verbal, the WITS-Quantitative, and the Terman Concept Mastery Test. Tables and graphs break down data into graduating year, grade levels, sex, and locality of students. The trends and findings are discussed for each test individually, and the implications of such findings as the systematic drop of WITS-Verbal mean scores are listed. In addition, tables summarize the old and new norms, percentile values, and raw scores for each test at the 9th and 11th grade levels. Also provided is a glossary of test terms. (SB)

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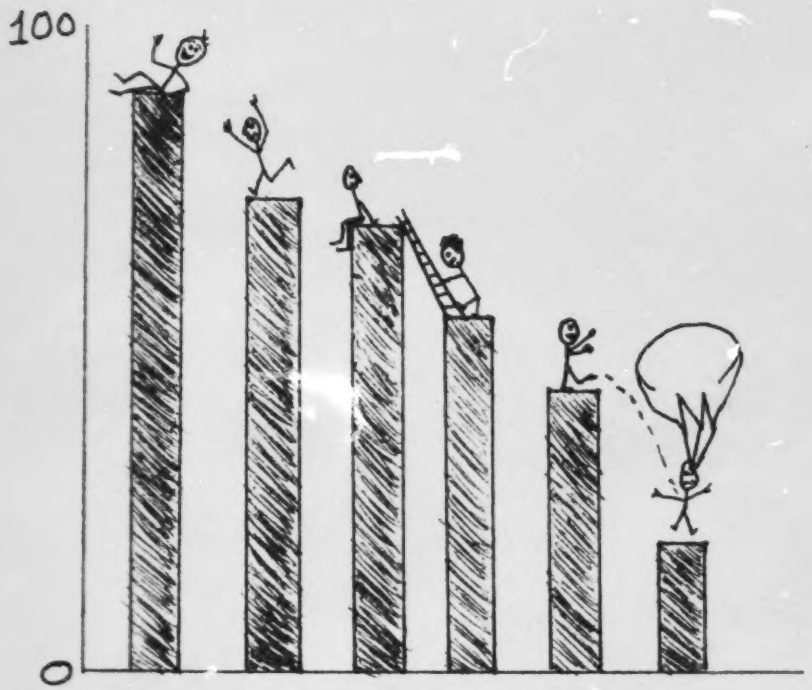
Verbal and Quantitative Test Performance:

Superior Students in Wisconsin High Schools 1965-1976



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The Research and Guidance Laboratory
The University of Wisconsin - Madison
1976

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We wish to give recognition to the following people who helped in the completion of this booklet:

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1976

DEDICATION

To Marshall Sanborn who, for thirteen years, cared about the Lab kids as if they were his own.

I. INTRODUCTION

The Research and Guidance Laboratory is a center for advanced study and development of procedures for education and guidance of promising students as they progress through high school and college and into adult citizenship. The Laboratory was founded in 1957 on the tenet that the problem of identifying and providing for such students is basically an obligation of the schools. The Laboratory attempts to stimulate and assist high school faculties to develop effective local practices which meet this obligation. At the same time, it carries on research on methods of discovery and development of youth of superior promise in any field. The Laboratory is a research-through-service organization which attempts to demonstrate what a joint attack by a university, public schools, and parents can accomplish in the conservation and development of human resources.

Faculties of cooperating high schools in Wisconsin select ninth-grade students on the basis of multiple criteria developed by the Laboratory staff. The selection procedures used have resulted in a group of some 2,900 participants whose average mental test scores are in the upper 3 to 5 percent of students in their age range and grade in school. There is, of course, systematic variance on such criteria as mental test performance, depending upon characteristics of local school populations from which the participants are drawn. It is assumed that in every school there are some students whose potentialities warrant special attention and programming which the school can develop and provide.

The function of the Laboratory is to serve as a demonstration and development center for counseling, guidance, and planning activities for all cooperating high schools. The students who participate from each school receive direct benefits of these activities, while at the same time the school is aided in supplementing and augmenting existing programs, or in inaugurating new procedures and services which will better meet guidance needs of students.

A central purpose of the Laboratory program, then, is to improve high school experiences and enhance the development of potentially superior students. This purpose extends not only to those young people who are selected to participate in the program, but also to the many others who attend schools where Laboratory influences are felt. Procedures whereby this general objective is pursued involve more specific goals for students, parents, and schools.

This first page taken from Sanborn, Marshall P., Pulvino, Charles J., & Wunderlin, Ronald F. Research Reports: Superior Students in Wisconsin High Schools. Research & Guidance Laboratory, University of Wisconsin-Madison, 1971.

One important aspect of the Laboratory program is standardized tests. Verbal, Quantitative and Concept Mastery tests have been used with the Laboratory population. This monograph is a compilation and analysis of Laboratory test performances from graduates of 1965-1976. The tests discussed in this report are the Wisconsin Inventory for Talented Students-Verbal (WITS-Verbal I), the Wisconsin Inventory for Talented Students-Quantitative (WITS-Quantitative II), the New Quantitative, and the Terman Concept Mastery Test.

The purpose of this report is to provide information on superior high school students that could be useful to educators in initiating programs and changes to meet the needs of superior students. Also, it is hoped that this information will give useful evidence of trends in test performances for the entire Laboratory population as well as specific information to each member school on trends with their own students.

The data is represented by graphs and tables, with the intention of presenting the data in the most succinct and useful manner. A glossary has been included to clarify measurement terms used in this monograph. In reading the graphs, we caution that you study all the information before drawing conclusions. Particular caution is advised in the graphs that illustrate trends by year for each individual school. In these particular graphs the N by year is often too small to be meaningful. In these cases viewing the overall trend might be more meaningful. We have attempted to include all information that is necessary.

The Laboratory staff is familiar with the data in this monograph. We encourage our member schools to study the data specific to your own school and share this among faculty, administrators, and counselors. The Laboratory staff is available to further discuss this data with each member school as well as discuss implications and directions. Also, both authors are available for consultation with member schools.

N. C.
K. B.

II. REVIEW OF THE TESTS

(Taken from Connell, Karen J. The Construction and Use of Two Tests to Separate High Verbal from High Quantitative Performers at the High School Level. Unpublished Master's Thesis, University of Wisconsin-Madison, 1963.)

Test performances of 128 1961 Wisconsin high school graduates on 6 nationally standardized tests provided the broad bases for construction of the tests. These students had been designated as superior learners by their teachers when they were in the ninth grade and had participated in the University of Wisconsin's Research and Guidance Laboratory for Superior Students during their 4 years of high school. They had visited the Laboratory at least once each year for counseling and guidance and on these occasions had taken a variety of standardized tests.

Performances on the following 6 standardized tests yielded the scores used initially: the Cooperative School and College Ability Tests, Form 1A; the Differential Aptitude Verbal Reasoning, Abstract Reasoning, and Numerical Ability Tests, Form 1A; and, the Concept Mastery Test, Form T.*

The 128 graduates had taken the 6 tests over the 4-year high school period. Their scores were converted to standard scores so that each test had a mean of 50 and so that the total mean for the 6 tests then equalled 300.

Narrowing the Population

The next task was to identify and separate high verbal performers from high quantitative performers within the total superior student population of 128 graduates. The author decided that she would consider the scores of students whose total standard score for the 6 tests in Group 1 was near the mean (300) but whose individual performances on specific verbal and quantitative tests** (hereafter designated as "Group 2") showed considerable discrepancy between the verbal and quantitative areas. The performances of

---

*This group of 6 tests will hereafter be referred to as "Group 1."

**Scores from the following verbal tests were used: the Cooperative School and College Ability Tests, Form 1A, parts I and III; the Differential Aptitude Verbal Reasoning Test, Form A; and, the Concept Mastery Test, Form T. Performances on the following 3 quantitative tests were considered: the Cooperative School and College Ability Tests, Form 1A, parts II and IV; the Differential Aptitude Numerical Ability Test, Form A; and, the Cooperative Sequential Tests of Educational Progress, Mathematics, Form 1A. (This group of tests will be referred to as "Group 2").

students, then, who scored very high in both the verbal and quantitative areas, very low in both areas or about equally well in both areas on the tests in Group 2 would automatically be eliminated.

Four groups of students whose total standard scores for the 6 tests in Group 1 were near the mean (300) of the total superior student group but whose individual performances on the verbal and quantitative tests in Group 2 suggested considerable discrepancy between the 2 areas were identified. The 4 groups were designated as high verbal performers, low verbal performers, high quantitative performers and low quantitative performers.

There were 11 high verbal performers and 11 low verbal performers. The combined standard scores for the 6 tests in Group 1 averaged 329.3 for the high verbal performers and 312.2 for the low verbal performers. Fourteen high quantitative performers and 14 low quantitative performers were identified. The combined standard scores for the 6 tests in Group 1 averaged 306.8 for the high quantitative group and 287.8 for the low quantitative group.

The number of high and low verbal performers did not match the number of high and low quantitative performers simply because the performances of an equal number of students in each area did not meet the established criteria. No high verbal performers appeared on the low quantitative list of selected students and only one of the 14 high quantitative performers appeared on the low verbal list. In this one case, the total standard score of the student for the 6 tests in Group 1 was 299. His quantitative performances were among the highest of those of the selected high quantitative group and his verbal scores were among the best of the low verbal performers. Because of the discrepancy in the verbal and quantitative scores and because this student's total standard score for the 6 tests in Group 1 was so close to the total superior student group mean (300), he was included on the two lists.

The 4 groups of students identified represented the author's attempt to separate from the total population of 128 1961 graduates those students who best met the criteria that their total standard score for the 6 tests in Group 1 be average or near the average (300) of the total superior student group and that individual performances on the verbal and quantitative tests in Group 2 show considerable discrepancy between the 2 areas. It appears that the author avoided, as she had intended, selecting students who scored very high in both the verbal and quantitative areas, very low in both areas or about equally well in both areas on the tests in Group 2.

Selecting the Items

Having identified high and low performers in the verbal area and high and low performers in the quantitative area, the author then analyzed test performances of each of these students.

The answers of the 11 high and the 11 low verbal performers on the verbal tests named in Group 2 were analyzed in terms of items missed and omitted. Those items missed or omitted at least 3 times as often by low verbal performers as by high verbal performers were considered discriminating items and were set aside as good prospects for a verbal test.

The answers of the 14 high and the 14 low quantitative performers on the quantitative tests named in Group 2 were also analyzed and those items missed or omitted at least 3 times as often by low quantitative performers as by high quantitative performers were set aside as good prospects for a quantitative test.

Because the verbal tests contained more total items (200) than did the quantitative tests (140) and because there appeared to be more items that were better discriminators between high and low verbal performers than there were items that discriminated between high and low quantitative performers, it was decided that the verbal test would consist of 100 items and the quantitative test, of 50 items.

The items finally selected for inclusion on the 2 tests were those that low verbal and low quantitative performers had missed or omitted at least 3 times as often as had high verbal and high quantitative performers, respectively.

The verbal test items seemed generally of 4 types so the 100 items were divided into 4 parts: Synonyms and Antonyms, Analogies, Vocabulary and Verbal Reasoning. The items were arranged, within each part, in order of ascending difficulty as estimated by the number of times each item had been missed or omitted by low verbal performers in comparison to high verbal performers.

The quantitative test items were not divided into parts but they were arranged, by the author, in order of "types" of items (i.e., addition, multiplication, fractions, word problems) and in order of ascending difficulty as estimated by the number of times each item had been missed or omitted by low quantitative performers in comparison to high quantitative performers.

Revision of the Quantitative Test

The WITS tests were first given to 23 tenth grade and 44 eleventh grade superior students who participated in the Laboratory program during the 1962 summer session. Consideration of their performances suggested that the verbal test had provided more challenge for them than had the quantitative test. It was thought, then, that the quantitative test would probably need more ceiling in order to really challenge other superior students, especially seniors.

An analysis of the items on the quantitative test either missed or omitted by the 67 tenth and eleventh graders who had taken it was made. Three items had not been missed or omitted at all, 9 items had been missed or omitted only once and 4 items had been missed or omitted twice. All items, then, missed or omitted only twice or less were judged "too easy" and were eliminated.

An attempt was then made to determine the kinds of items that had proven most difficult for the 67 students, that is, the kinds of items they had missed or omitted most often. The aid of 2 mathematics teachers was enlisted to help the author select from the Cooperative Sequential Tests of Educational Progress, Mathematics, Form 2A, the Cooperative Intermediate Algebra Test, Form Z, and the Educational Testing Service's Pre-Engineering Ability Test Form ZPA, new items that closely approximated in nature and style those items most often missed or omitted by the 67 students who had taken the quantitative test. Sixteen items were selected and added to the remaining items of the WITS Quantitative (I) to form the WITS Quantitative (II).

Permission was secured to use the new items and the author prepared the tests for administration to 1962-63 Laboratory participants.

One change in the directions for taking the tests was made after administering the tests to the summer group. The author had observed that most students who had taken the tests spent approximately 25 minutes on the verbal test and 45 minutes on the quantitative test. To expedite administration of the tests to larger groups of superior students, the author established a 30-minute time limit for the verbal test and a 55-minute time limit for the quantitative test.

Important: The Quantitative test graphed in the following sections is the WITS-Quantitative II. However a glance at the grades for WITS-Quantitative II 9th grade and WITS-Quantitative II 11th grade shows an extreme drop in means from 1967 to 1968. Please note, the content of this test has remained the same however, the format was changed. The graduates of 1965-1967 took the

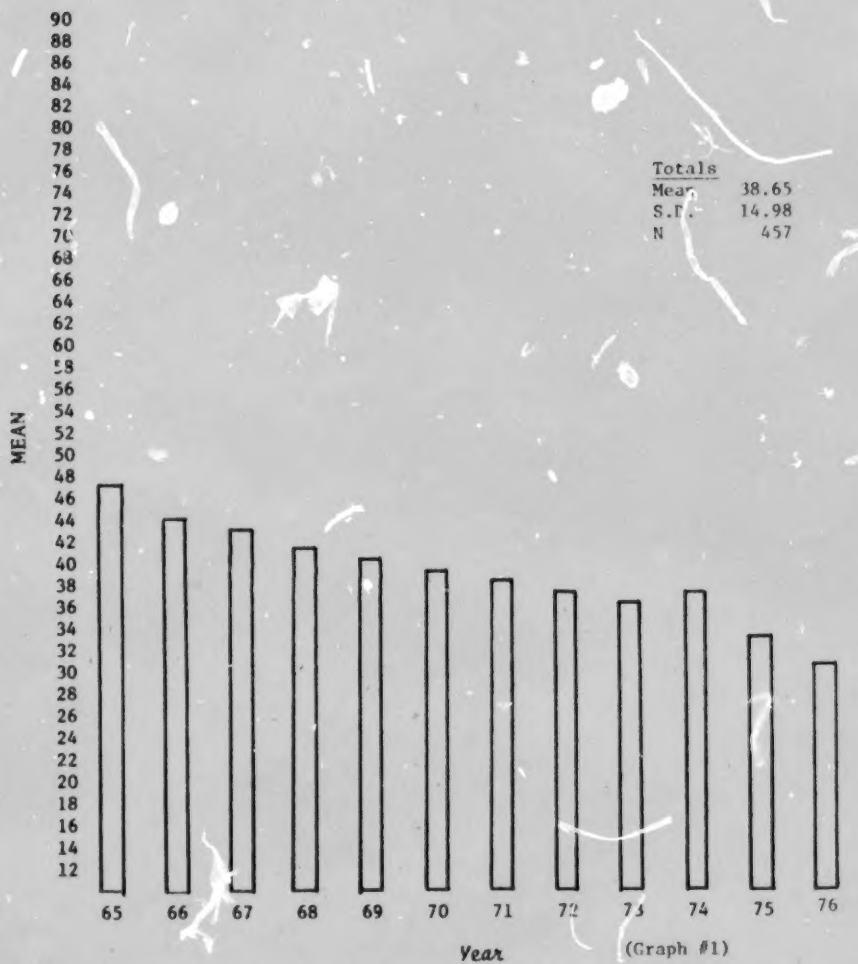
test as a multiple choice test. Beginning with the graduates of 1968 students were asked to work out the problems and supply the answer. The extreme drop in means shows that the multiple choice format definitely produced higher test performance. To remind you of this change in format, a line has been drawn on the Quantitative graphs to separate the 1965-1967 scores from the revised format.

The New Quantitative Test was developed at the Research and Guidance Laboratory in 1973. The items on this test were selected to include mathematical concepts usually taught in grades 7-12. The test consists of 40 items with a time limit of 50 minutes. A score is determined by the number of right answers. The norms in this pamphlet are the first norms on this new test.

> The Terman Concept Mastery Test (CMT) is a measure of ability to deal with abstract ideas at a high level. It is suitable for administration to college juniors or seniors and to graduate students.
>
> The test consists of two parts: I, the identification of synonyms and antonyms, and II the completion of analogies. The items have been so selected as to draw on concepts from a wide variety of subject matter fields, such as physical and biological sciences, mathematics, history, geography, literature, music, and so forth.
>
> There is no time limit for the CMT. Those for whom the test is intended will ordinarily complete it within forty minutes.
>
> (Concept Mastery Test, Form T, Manual 1956, The Psychological Corporation, New York)

III. TEST DATA & GRAPHS FOR LABORATORY POPULATION

WITS-Verbal I-9th Grade
1965-1976*
Laboratory Population



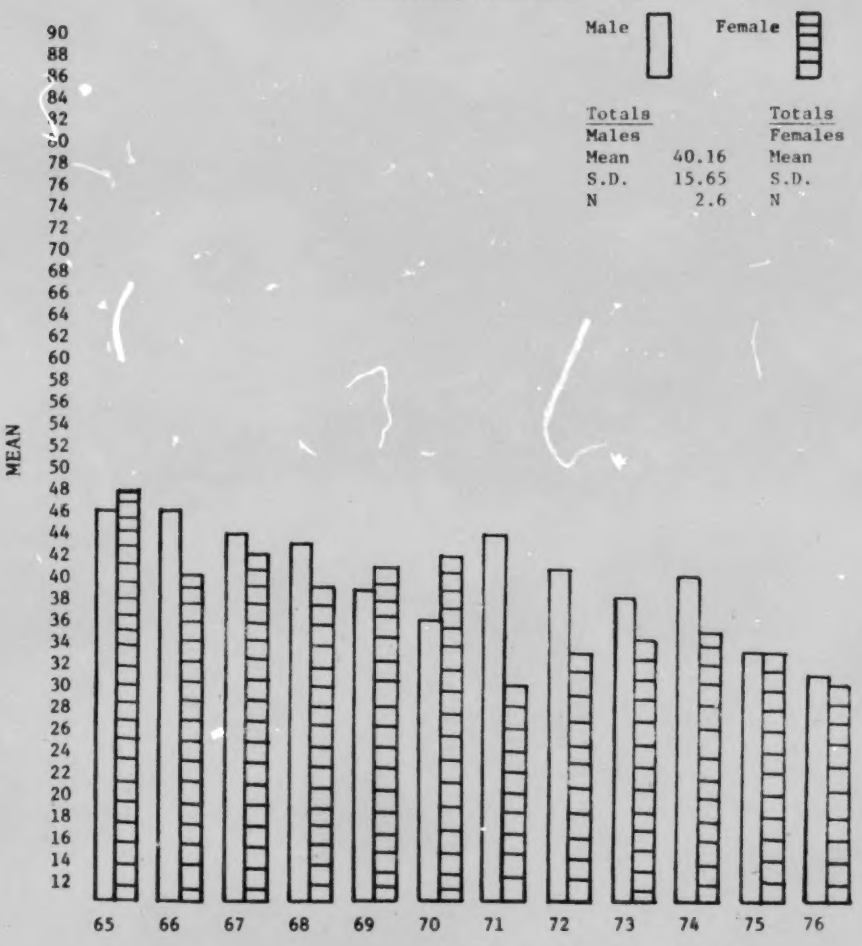
(Graph #1)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	S.D.	Year	N	Mean	S.D.
1965	29	46.79	12.80	1971	39	38.03	15.44
1966	39	43.54	16.88	1972	45	37.04	17.20
1967	38	43.11	14.46	1973	37	35.79	16.03
1968	35	40.54	12.37	1974	41	37.49	12.53
1969	36	40.28	12.02	1975	39	32.95	14.90
1970	45	38.91	16.06	1976	34	30.41	11.82

WITS-Verbal I-9th Grade
1965-1976*
Laboratory Population



Totals Males		Totals Females	
Mean	40.16	Mean	37.28
S.D.	15.65	S.D.	14.23
N	2.6	N	241

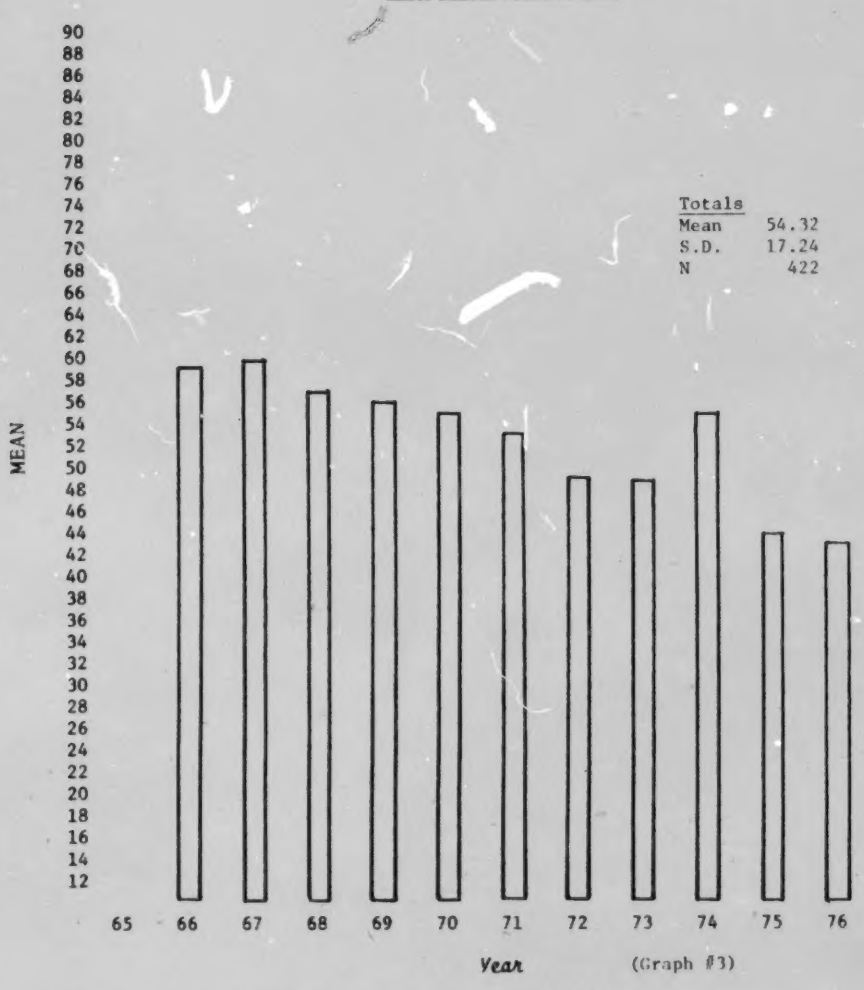
(Graph #2)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Verbal I 9th Grade (Male-Female)

Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.	Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.
1965	16	45.50	11.67	13	48.38	14.38	1971	22	44.41	16.11	17	29.76	9.84
1966	20	46.45	18.29	19	40.47	15.14	1972	24	40.58	18.08	21	33.00	15.58
1967	17	43.94	16.58	21	42.43	12.87	1973	17	38.22	18.21	20	33.60	13.88
1968	14	43.36	11.37	21	38.67	12.92	1974	19	39.95	13.12	22	35.36	11.90
1969	12	39.42	12.88	24	40.71	11.83	1975	17	32.53	12.91	22	33.27	16.57
1970	22	35.86	13.13	23	41.83	18.24	1976	16	30.63	15.63	18	30.22	7.44

WITS-Verbal I-11th Grade
1965-1976*
Laboratory Population



(Graph #3)

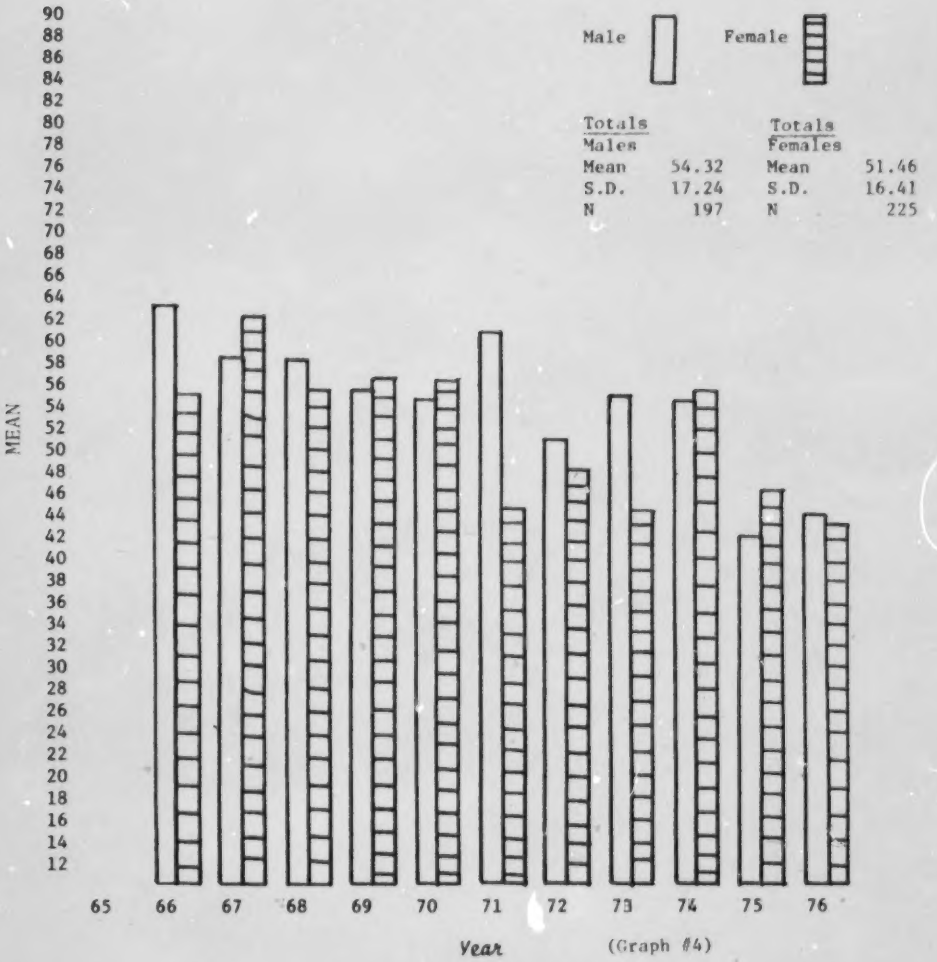
*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	S.D.	Year	N	Mean	S.D.
1965	*	*	*	1971	38	53.37	17.00
1966	39	58.92	15.86	1972	43	49.44	18.99
1967	38	60.37	16.02	1973	35	49.39	16.48
1968	36	56.50	15.27	1974	40	54.13	16.74
1969	37	55.86	14.61	1975	38	43.53	15.86
1970	43	54.84	16.21	1976	35	43.46	13.19

*Not Given

WITS-Verbal I-11th Grade
1965-1976*
Laboratory Population



(Graph #4)

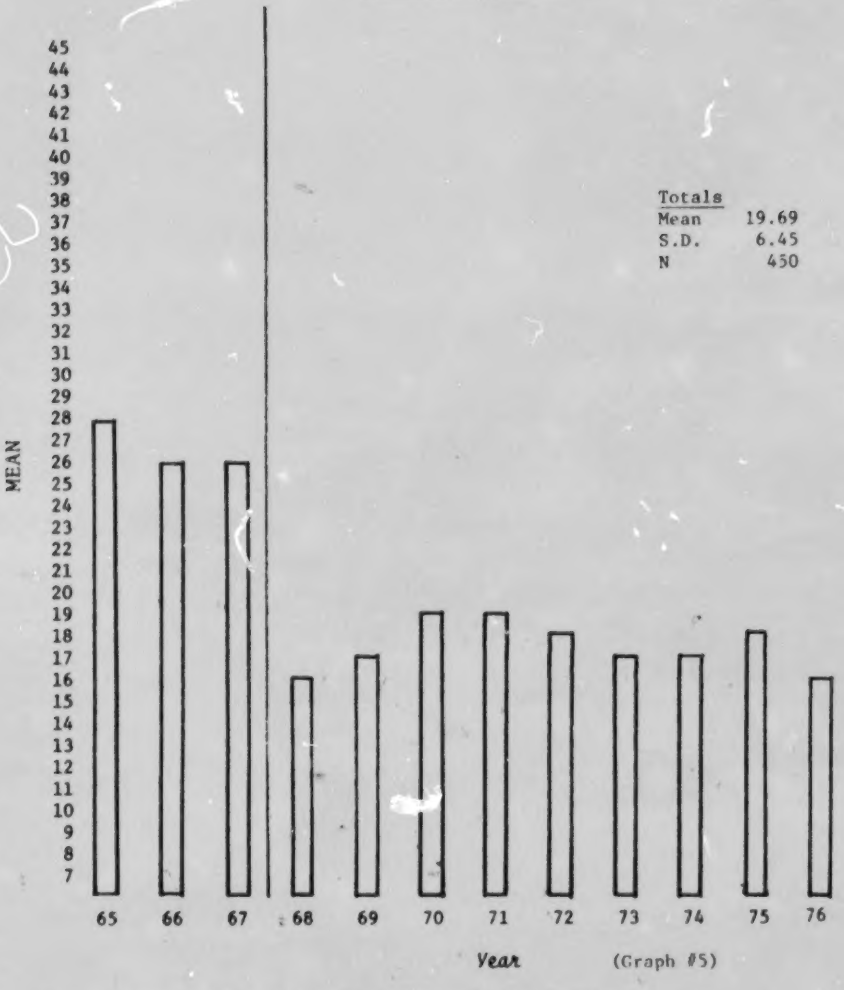
*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Verbal I 11th Grade (Male-Female)

Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.	Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.
1965	*	*	*	*	*	*	1971	21	60.33	17.52	17	44.76	11.91
1966	20	62.70	15.08	19	54.95	16.07	1972	21	51.38	20.92	22	47.59	17.23
1967	17	58.47	16.02	21	61.90	16.25	1973	17	55.17	17.43	18	43.61	13.60
1968	15	58.47	13.48	21	55.10	16.61	1974	18	53.67	16.04	22	54.50	17.67
1969	12	55.00	18.31	24	56.33	12.60	1975	16	42.19	13.44	22	44.50	17.65
1970	21	53.71	16.67	22	55.91	16.06	1976	18	44.22	14.23	17	42.65	7.44

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*
Laboratory Population



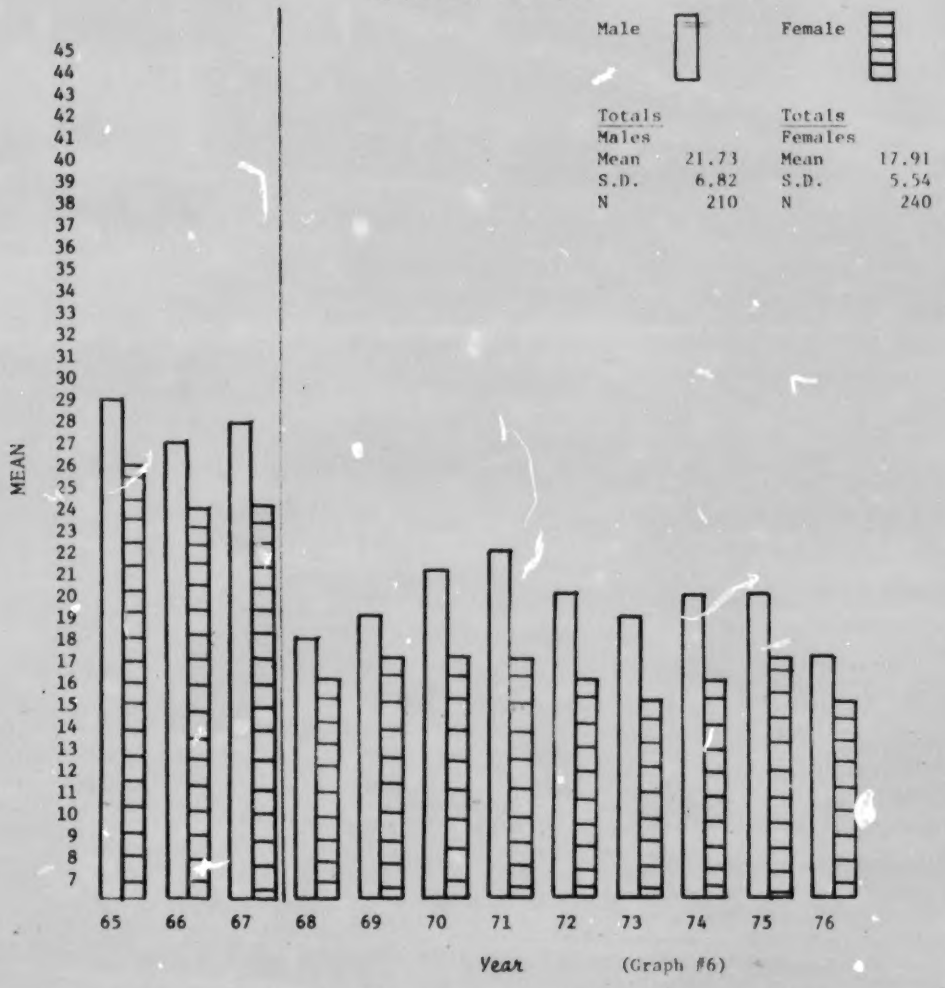
(Graph #5)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	S.D.	Year	N	Mean	S.D.
1965	29	27.79	4.46	1971	38	19.45	5.30
1966	39	25.67	6.10	1972	45	17.80	5.67
1967	38	25.74	5.73	1973	36	17.33	5.27
1968	36	16.16	4.28	1974	42	17.43	5.98
1969	36	17.39	4.85	1975	36	18.22	4.52
1970	45	18.51	5.81	1976	30	15.80	4.40

WITS-Quantitative II-9th Grade
1965-1976*
Laboratory Population



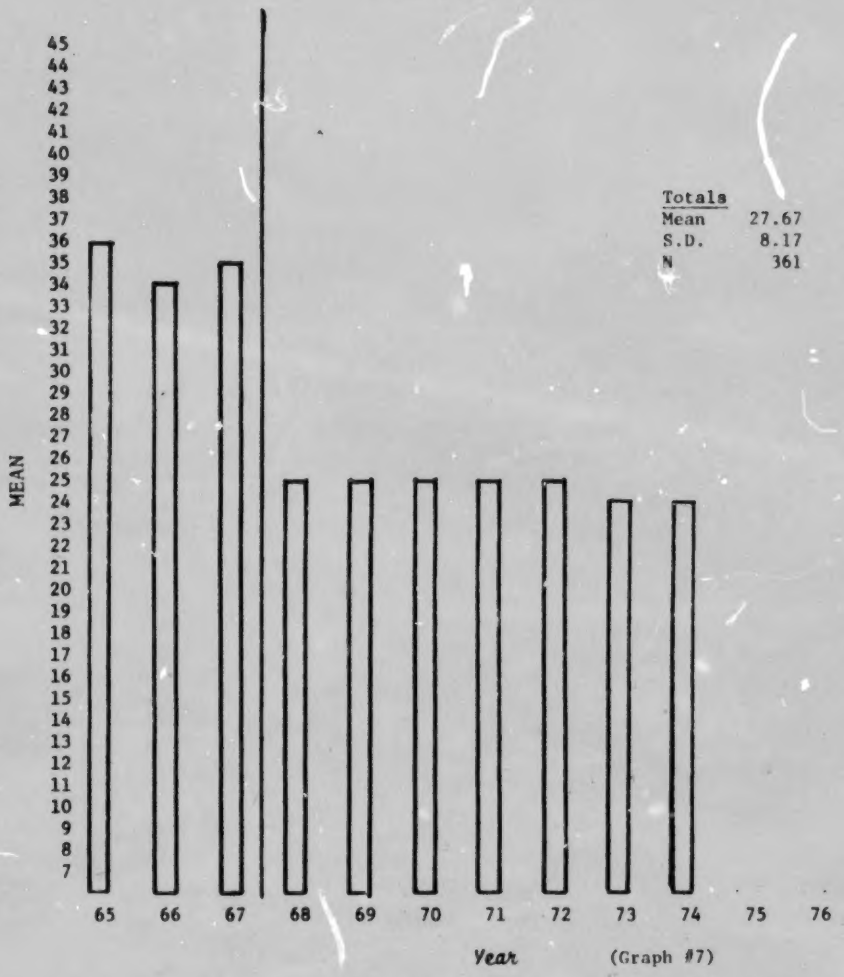
(Graph #6)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Quantitative II 9th Grade (Male-Female)

Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.	Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.
1965	16	29.13	5.32	13	26.15	2.41	1971	21	21.67	5.03	17	16.71	4.34
1966	20	27.20	5.88	19	24.05	6.05	1972	24	19.58	5.51	21	15.76	5.25
1967	17	28.29	5.23	21	23.67	5.36	1973	18	19.44	6.58	18	15.22	2.10
1968	14	17.57	5.93	22	16.05	2.69	1974	19	19.68	6.74	23	15.57	4.62
1969	12	18.93	6.18	24	16.67	4.00	1975	14	20.43	4.40	22	16.82	4.10
1970	22	20.59	5.75	23	16.52	5.27	1976	13	16.62	5.81	17	15.18	2.96

WITS-Quantitative II-11th Grade
1965-1974*
Laboratory Population



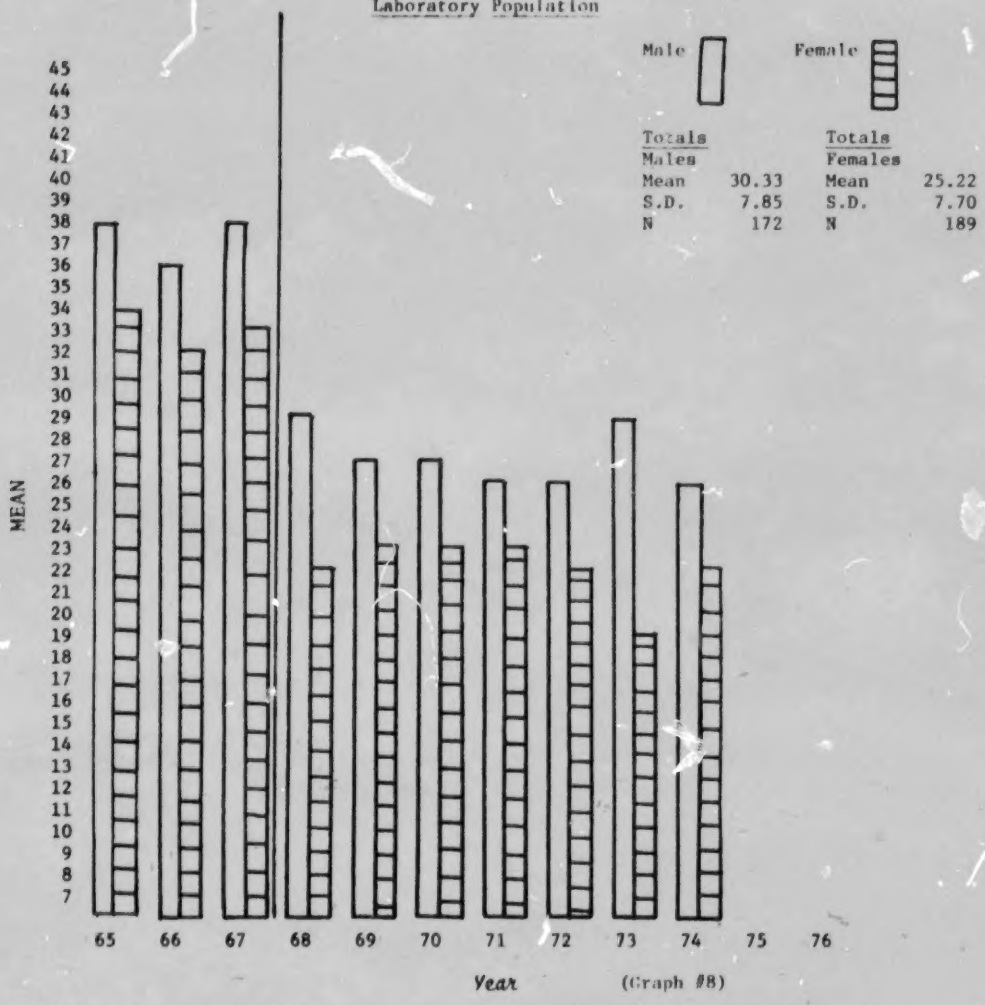
(Graph #7)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	S.D.	Year	N	Mean	S.D.
1965	28	36.14	6.25	1971	38	24.63	5.15
1966	39	34.28	7.20	1972	43	24.53	7.57
1967	39	35.08	5.21	1973	35	24.17	7.55
1968	36	24.92	6.50	1974	23	24.09	5.90
1969	37	24.76	5.91	1975	New Quantitative		
1970	43	25.02	7.42	1976	New Quantitative		

WITS-Quantitative II-11th Grade
1965-1974*
Laboratory Population



(Graph #8)

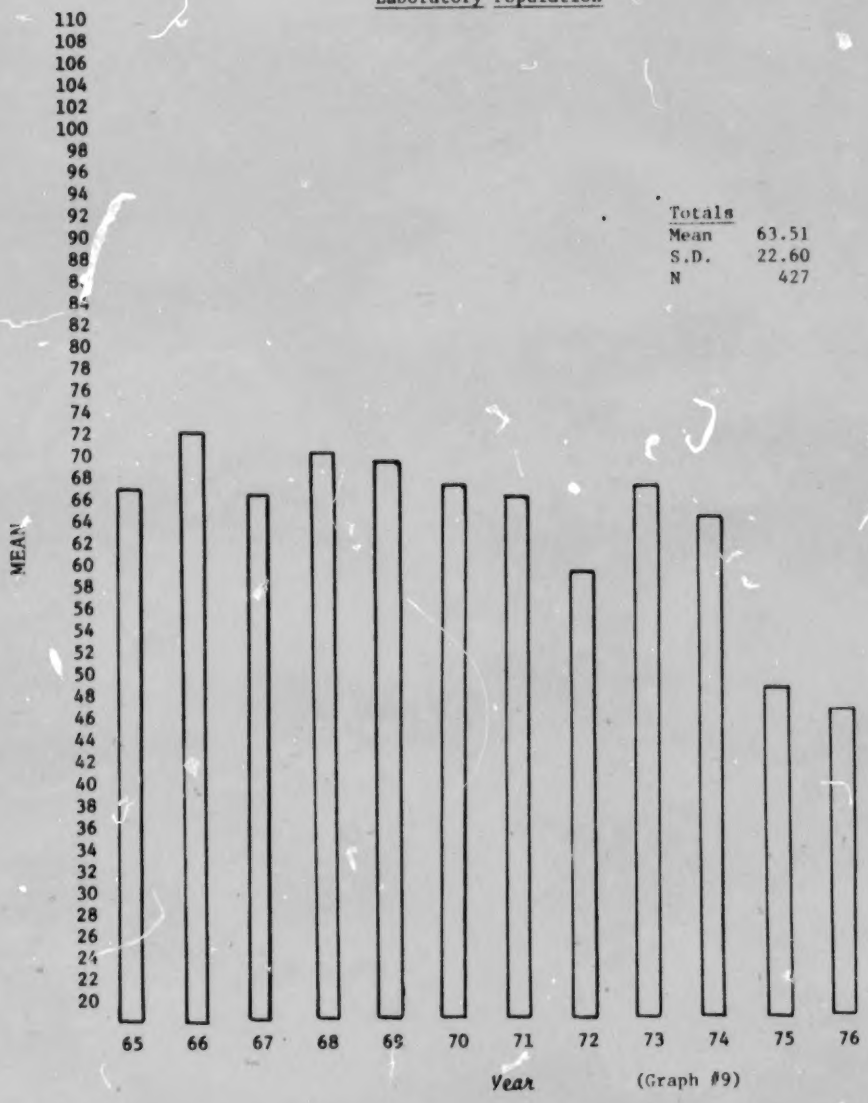
*Means for graph rounded off to nearest whole number

Laboratory Summary Table: WITS-Quantitative II 11th Grade (Male-Female)

Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.	Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.
1965	15	38.40	4.75	13	33.54	6.91	1971	21	26.29	4.86	17	22.59	4.87
1966	20	36.00	6.81	19	32.47	7.34	1972	21	26.81	7.89	22	22.36	6.72
1967	18	37.50	5.89	21	32.52	6.71	1973	16	28.94	6.68	19	18.89	5.51
1968	15	28.87	6.64	21	22.10	4.78	1974	12	25.75	6.17	11	22.27	5.27
1969	13	27.38	6.13	24	23.33	5.39	1975	New Quantitative					
1970	21	27.19	7.44	22	22.95	6.95	1976	New Quantitative					

Terman Concept Mastery Test--1965-1976*

Laboratory Population



(Graph #9)

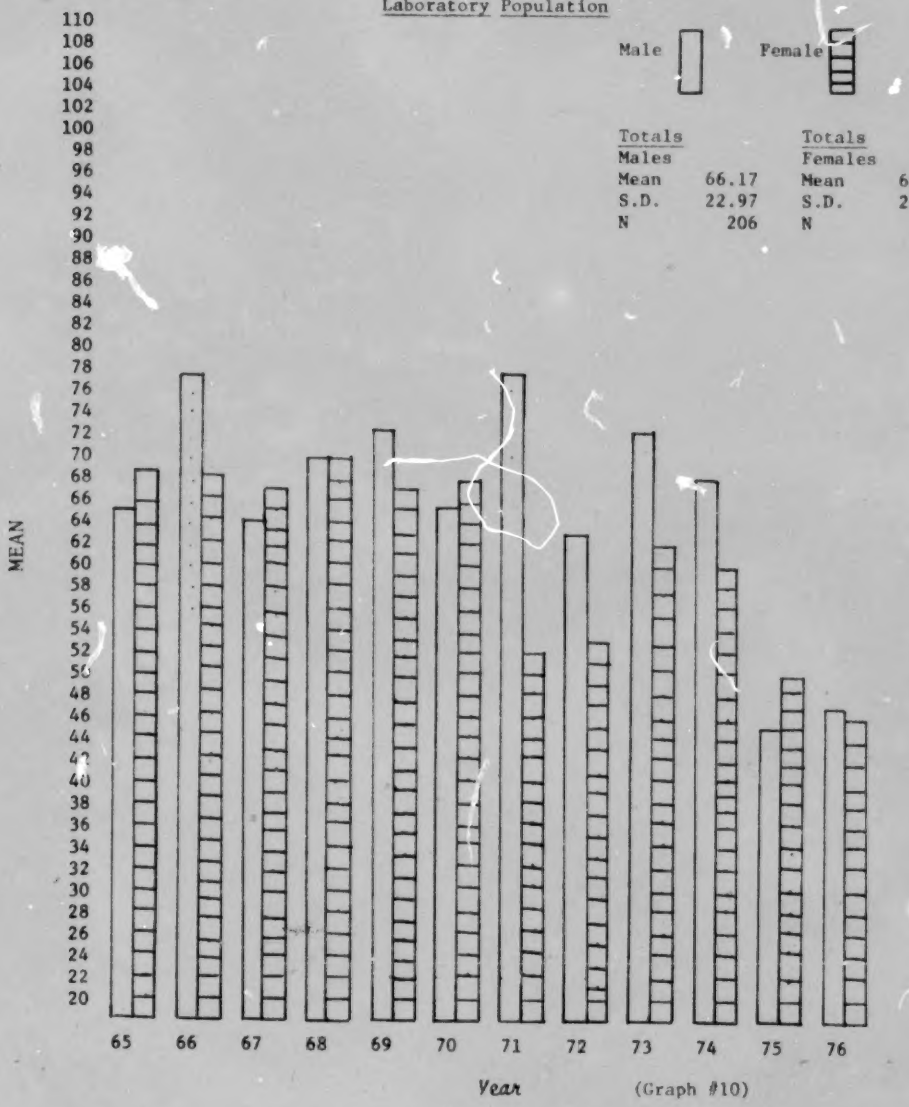
*Means for graph rounded off to nearest whole number

Laboratory Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	S.D.	Year	N	Mean	S.D.
1965	29	66.59	23.05	1971	39	65.87	25.14
1966	36	72.28	23.19	1972	43	58.51	24.18
1967	36	65.94	22.18	1973	33	66.88	22.59
1968	31	69.94	15.16	1974	40	64.18	24.20
1969	36	68.83	16.94	1975	40	47.72	18.46
1970	41	66.54	22.56	1976	23	46.00	15.20

Terman Concept Mastery Test--1965-1976*

Laboratory Population



(Graph #10)

*Means for graph rounded off to nearest whole number

Laboratory Summary Table: Terman Concept Mastery - 12th Grade (Male-Female)

Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.	Year	M N	M Mean	M S.D.	F N	F Mean	F S.D.
1965	16	64.81	19.73	13	68.77	27.27	1971	22	76.55	23.58	17	52.06	20.29
1966	18	76.94	23.75	18	67.61	22.79	1972	23	63.35	26.57	20	52.95	20.34
1967	16	64.19	17.26	20	57.35	25.82	1973	16	71.75	27.25	17	62.29	16.70
1968	14	70.36	15.14	17	69.59	15.63	1974	20	68.32	25.03	20	60.25	23.33
1969	13	72.31	16.93	23	66.87	17.00	1975	18	45.17	16.34	22	49.90	20.34
1970	20	64.90	18.39	21	68.10	26.29	1976	10	46.60	19.27	13	45.54	12.02

NEW QUANTITATIVE
(9th-11th 1973-1976)

Table of Summary Data:

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

IV. DISCUSSION OF LABORATORY TEST DATA & GRAPHS

The graphs presented in section III include the total Laboratory population graduating from 1965-1976. It seems most useful to discuss trends and findings for each test individually.

A. WITS-Verbal I (9th grade) 1965-1976

Graph 1 - This test shows an almost perfect progression of descending test means from 1965-1976. The highest mean for a year was 1965; the lowest was 1976.

Graph 2 - Overall, boys scored higher than girls (40.16 to 37.28) but both groups have generally scored lower since 1965. Both boys and girls scored highest in 1965 while girls had their lowest mean score in 1971 and boys in 1976. Generally, boys and girls earned nearly comparable scores except for the extreme disparity in 1971.

B. WITS-Verbal I (11th grade) 1966-1976

Graph 3 - No scores for this test are reported for the graduates of 1965. There is a descending progression of mean scores similar to but not as consistent as the WITS-Verbal 9th. 1974 shows a rise in an otherwise descending trend which is also slightly evident in the 9th grade test. The highest performance year was 1967 and the lowest 1976.

Graph 4 - Overall, boys scored higher than girls (54.32 to 51.46) in a ratio almost identical to 9th grade. Boys scored highest in 1966 and lowest in 1975. Girls scored highest in 1967 and lowest in 1976. The extreme difference in the 1971 scores of boys and girls is evident again as well as in 1973.

C. WITS-Quantitative II (9th grade) 1965-1976

Graph 5 - The scores on the mathematics test reflect a different trend than that of the verbal test. The 1965-1967 scores are almost equally high. The 1968 graduates were the first group to get the Revised form of WITS II. The items on the new form remained the same but the students were required to work out their answers instead of choosing a multiple choice answer. This is reflected in the sharp drop in means. However, there is a stabilization after 1968 which indicates that math scores have remained constant compared to the descending verbal scores.

Graph 6 - Boys show an overall performance higher than girls (21.73 to 17.91). Each year the boys performed higher than girls. Both boys and girls scored lowest in 1976.

D. WITS-Quantitative II (11th grade) 1965-1974

Graph 7 - This test was used in the Laboratory until 1974. Graduates of 1975 and 1976 took the New Quantitative. The trend for this test is the same as the 9th grade quantitative test. There is the identical drop in mean scores in 1968 (due to the change in forms) and then a stabilization. The mean scores from 1968-1974 indicate an almost perfect consistency. Lowest performance was in 1974.

Graph 8 - The overall performance of boys was higher on this test (30.33 to 25.22), a difference comparable to that found in the 9th grade quantitative test scores. Generally, boys scored higher than girls, but 1973 shows a large difference.

E. TERMAN CONCEPT MASTERY TEST - Form T 1965-1976

Graph 9 - The Concept Mastery Test (CMT) shows a stability of high performance from 1965-1974. The mean scores of graduates of 1975 and 1976 indicate an extreme drop in scores. The highest scores were reported for 1966 graduates and the lowest for 1976.

Graph 10 - Overall, boys performed higher than girls (66.17 to 61.00), although in 1965, 1967, 1970, 1975 girls performed higher than boys. The highest mean scores are 1966 for boys; 1968 for girls. The lowest scores for boys were in 1975; for girls, 1976.

F. NEW QUANTITATIVE TEST

Because this test has been used only since 1973 there is not enough data at this time to show meaningful trends. All other test scores were based on graduates. The New Quantitative test, however, also includes scores of students who are presently in the Laboratory. We have included these students because the majority of people who have taken the New Quantitative have not yet graduated.

H. Summary

1) The WITS-Verbal mean scores have systematically descended from 1965-1976.

2) The WITS-Quantitative mean scores show a consistency over the years.

3) Boys have a higher overall mean on both WITS tests and the Terman.

4) The differences in means between boys and girls is greater in the WITS-Quantitative than the WITS-Verbal or Terman.

5) The differences in means between boys and girls have remained consistent from 9th year to 11th year.

6) The more recent WITS-Verbal and Terman norms are considerably lower than the old norms.

I. Implications

We have quantified the trends and can report that mean scores have been going down. However, to ascertain causes for these trends is much more difficult. We offer some possible hypotheses based on our experiences working in the Laboratory.

1) One explanation for a descending trend in verbal areas might be that the last years, especially since 1973, the Laboratory has encouraged schools to select pupils for the program that are deemed superior in a broader sense than the traditional superiority in verbal and mathematical skills. These students may be considerably superior and creative in areas not specifically measured by these tests.

2) There is the possibility that in the last few years schools have not stressed basic vocabulary skills that these tests measure.

3) A possible explanation is that with the greater use of television and other forms of entertainment, adolescents simply do not read as much as before. Past research in the Laboratory has shown that those students who performed highest on the verbal tests were avid readers.

4) Another possible explanation particularly for the trend in verbal scores is that these tests are becoming obsolete. The WITS-Verbal and the Terman have not been revised since 1965 and perhaps some of the words are no longer essential to a modern vocabulary.

5) The extreme drop in Terman scores for 1975 and 1976 are puzzling. One possible explanation is the variation in testing conditions at the Laboratory during these last two years.

6) There are two explanations that might help account for the difference between male and female performances on these tests:

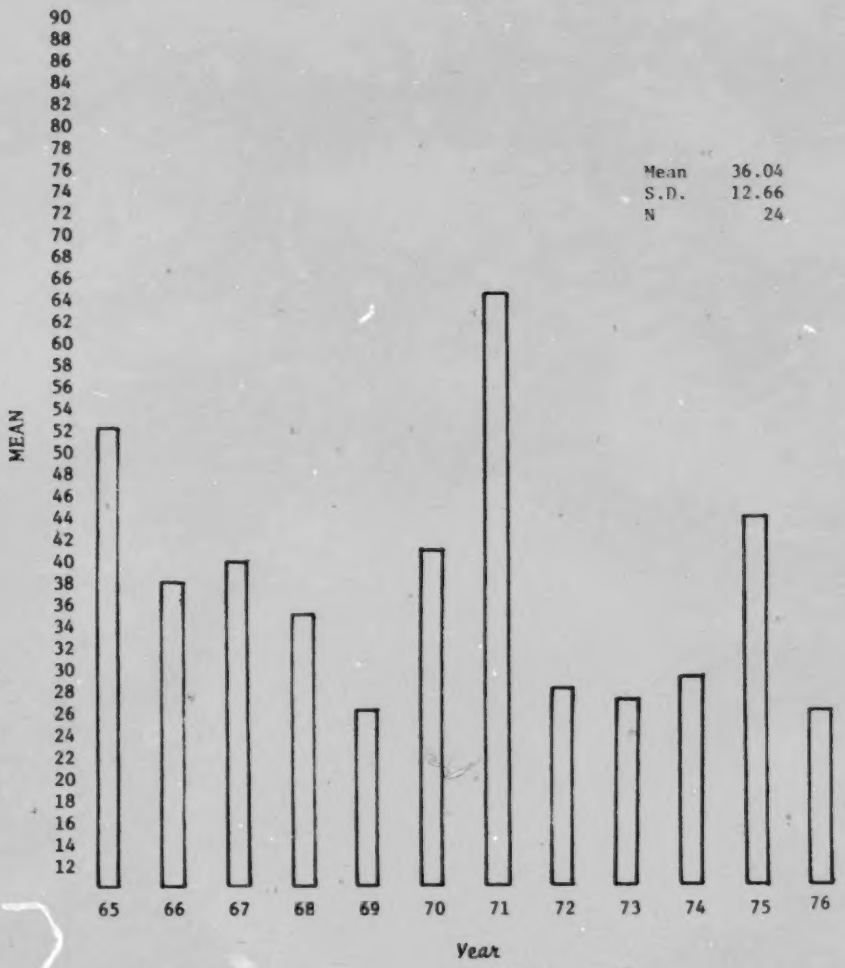
a) It is possible that the boys selected for the program have been socialized to perform and achieve and therefore might be more comfortable and determined in the testing situation.

b) It is likely that the selection procedure of boys is implicitly different from girls. Boys who are selected for the Laboratory program tend to be more outstanding. In order to be selected they have to be more outstanding than the general population of boys. It may be possible that the boys in the Laboratory program differ more from the general population of boys than do the Laboratory selected girls differ from the general population of girls.

7) The Quantitative test required more careful consideration since there was a change in format. The scores of 1965-1967 when the test was multiple choice show consistency. The new format is reflected in the scores beginning with the graduates of 1968 and these too are consistent. While it is evident that verbal scores have been descending, this is not true of math scores. An explanation is that the possibilities offered for the descending verbal scores do not effect math performance.

WITS-Verbal I-9th Grade
1965-1976*

ALBANY



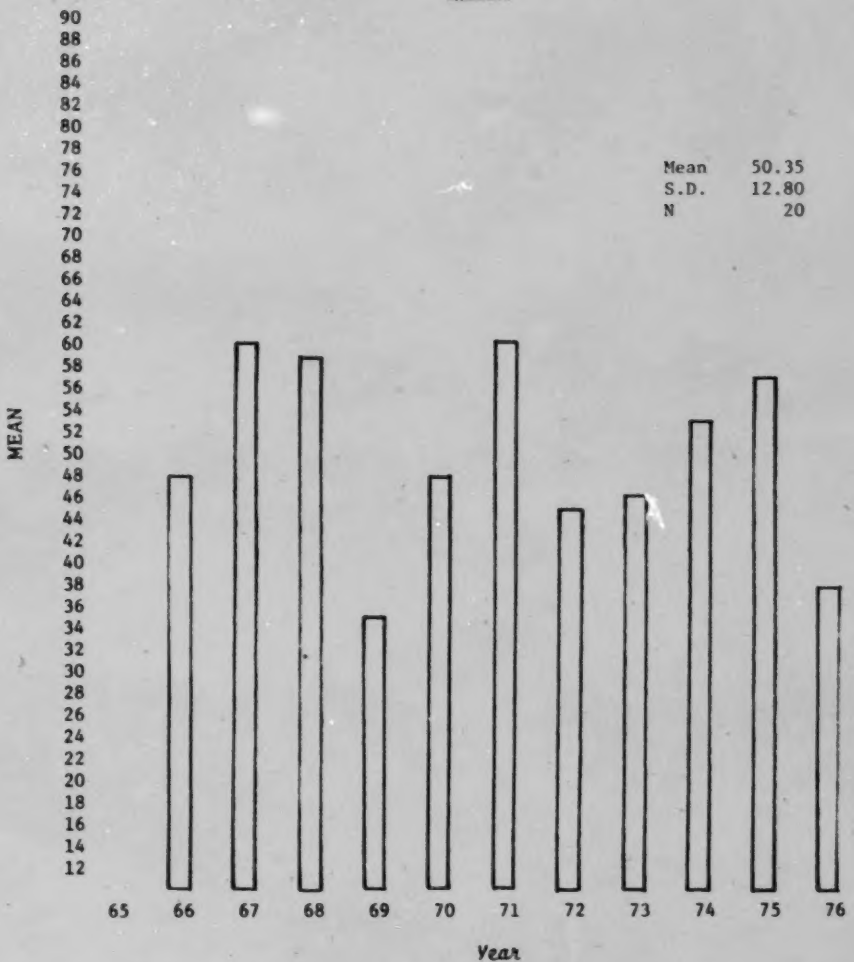
*Means for graph rounded off to nearest whole number

ALBANY Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	51.50	1971	1	64.00
1966	3	38.00	1972	4	28.25
1967	1	40.00	1973	1	27.00
1968	2	35.00	1974	3	29.00
1969	1	26.00	1975	2	43.50
1970	2	41.00	1976	2	26.00

WITS-Verbal I-11th Grade
1965-1976*

ALBANY



*Means for graph rounded off to nearest whole number

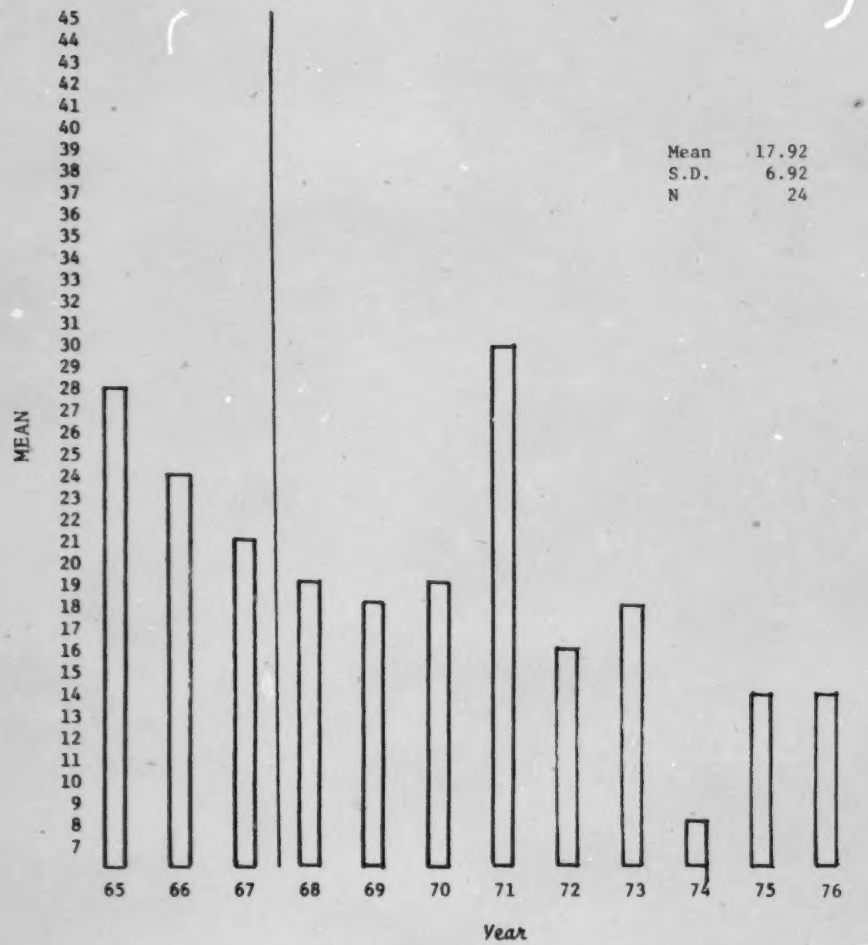
ALBANY Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	1	72.00
1966	3	48.00	1972	3	45.00
1967	1	60.00	1973	1	46.00
1968	2	58.50	1974	2	52.50
1969	1	35.00	1975	2	56.40
1970	2	48.00	1976	2	37.50

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*

ALBANY



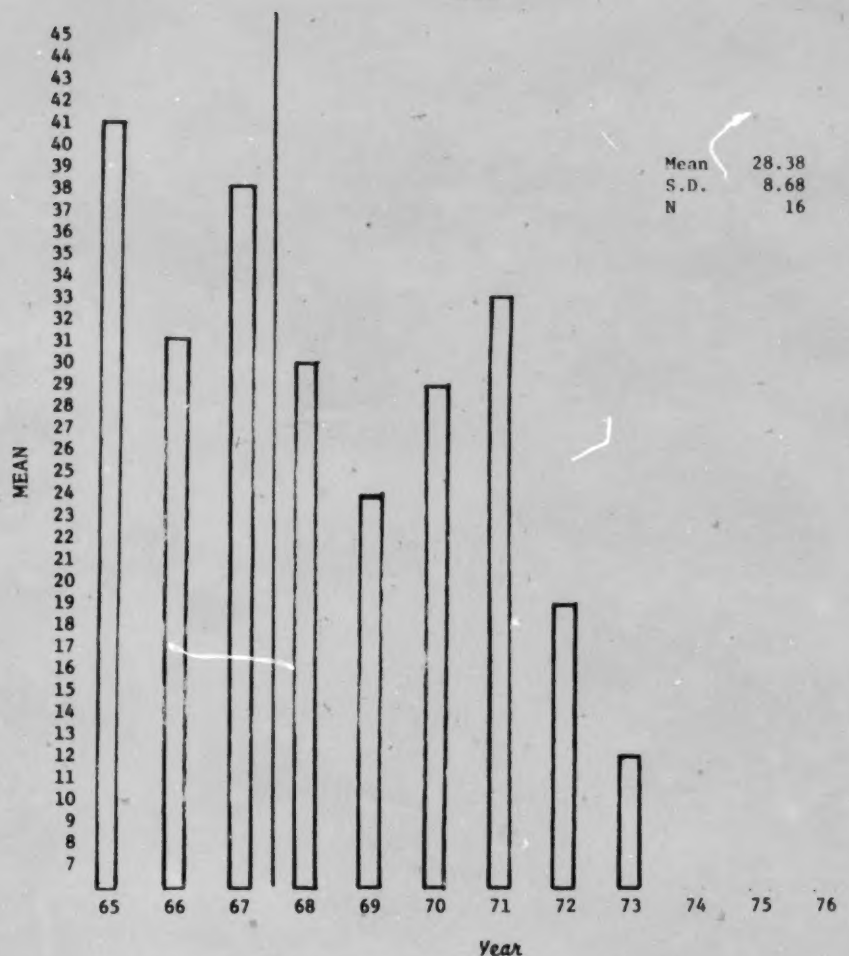
*Means for graph rounded off to nearest whole number

ALBANY Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	27.50	1971	1	30.00
1966	3	23.66	1972	4	16.00
1967	1	21.00	1973	1	18.00
1968	2	18.50	1974	3	8.00
1969	1	18.00	1975	2	14.00
1970	2	18.50	1976	2	13.50

WITS-Quantitative II-11th Grade
1965-1974*

ALBANY

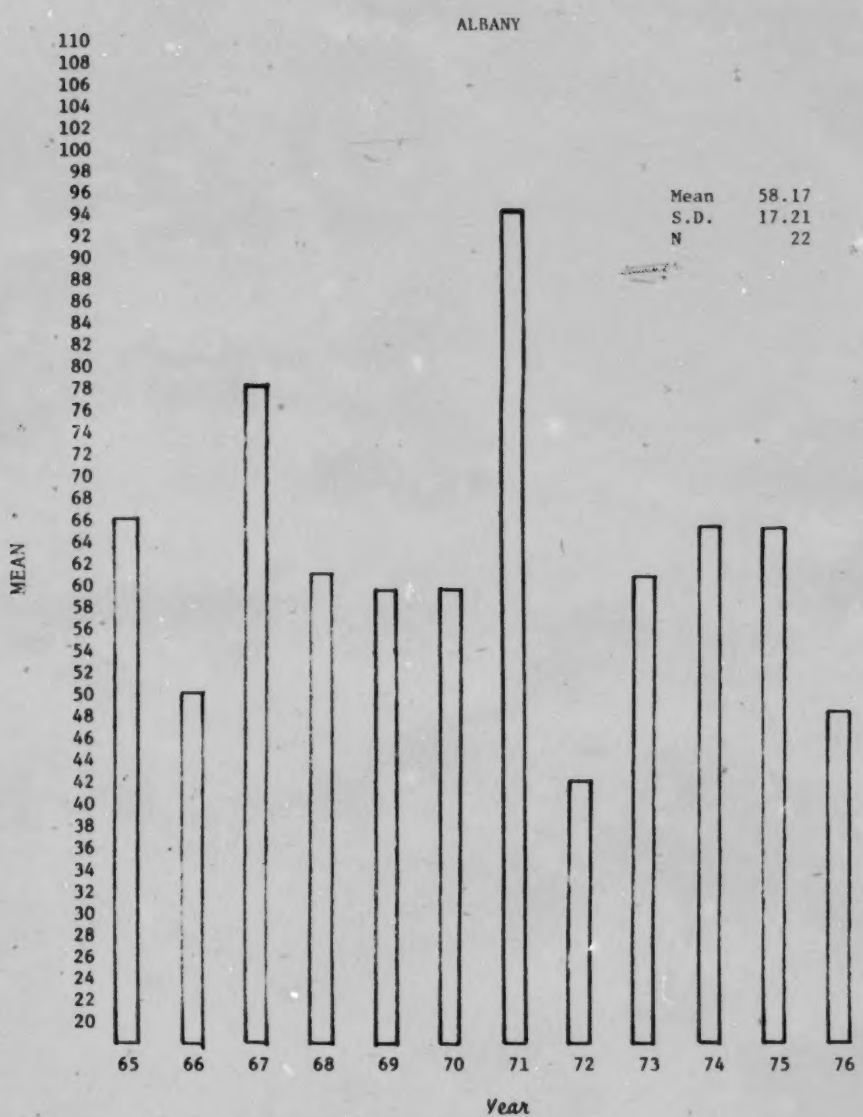


*Means for graph rounded off to nearest whole number

ALBANY Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	2	40.50	1971	1	33.00
1966	3	30.66	1972	3	19.00
1967	1	38.00	1973	1	12.00
1968	2	29.50	1974	New Quantitative	
1969	1	24.00	1975	New Quantitative	
1970	2	29.00	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

ALBANY Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	2	65.50	1971	1	94.00
1966	3	50.33	1972	4	41.50
1967	1	78.33	1973	1	60.00
1968	1	61.00	1974	3	65.00
1969	1	59.00	1975	2	65.00
1970	1	59.00	1976	2	48.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: ALBANY

TEST	N	School Mean	School S.D.
New Quantitative-9th	8	12.50	3.25
New Quantitative-11th	8	20.13	5.38

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

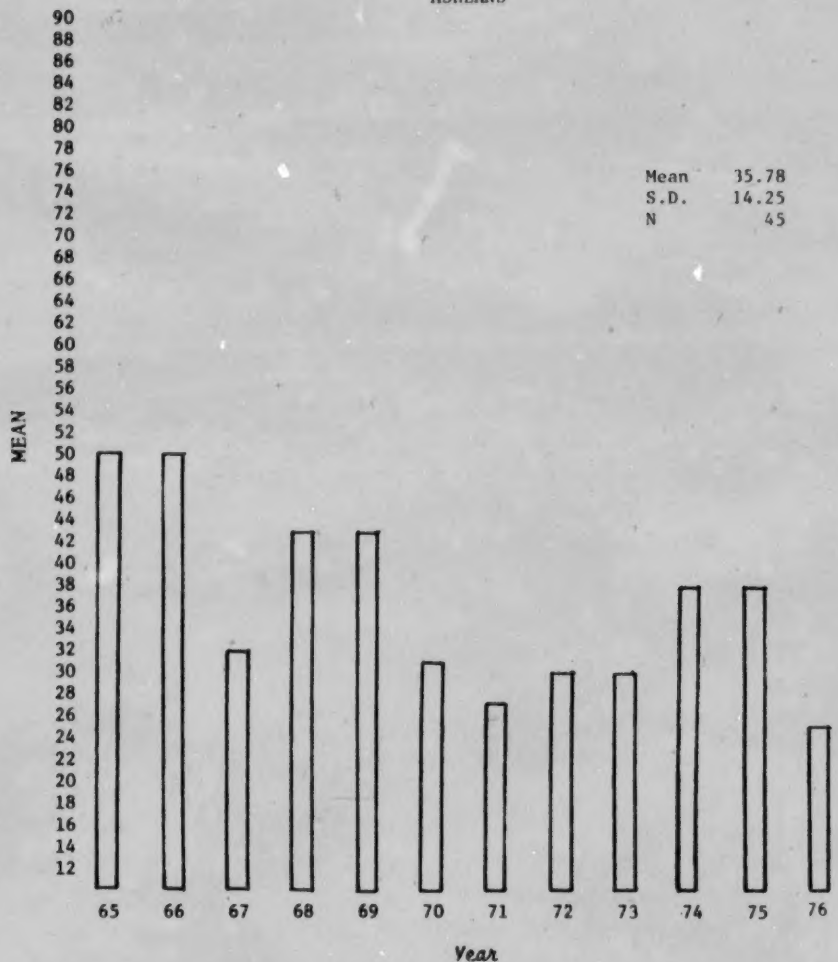
TABLE OF COMPARISONS ON MALES AND FEMALES

ALBANY

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	11	38.82	12.54	13	33.69	12.76	22	.9882	No
WITS-Verbal 11th 1965-1976	9	55.11	11.84	11	46.45	12.74	18	1.5599	No
WITS-Quant 9th 1965-1976	11	21.55	4.50	13	14.85	7.24	22	2.6584	Yes
WITS-Quant 11th 1965-1976	9	30.67	6.16	7	25.43	10.94	14	1.2166	No
TERMAN	10	60.60	17.16	12	56.17	17.74	20	.5922	No

WITS-Verbal I-9th Grade
1965-1976*

ASHLAND



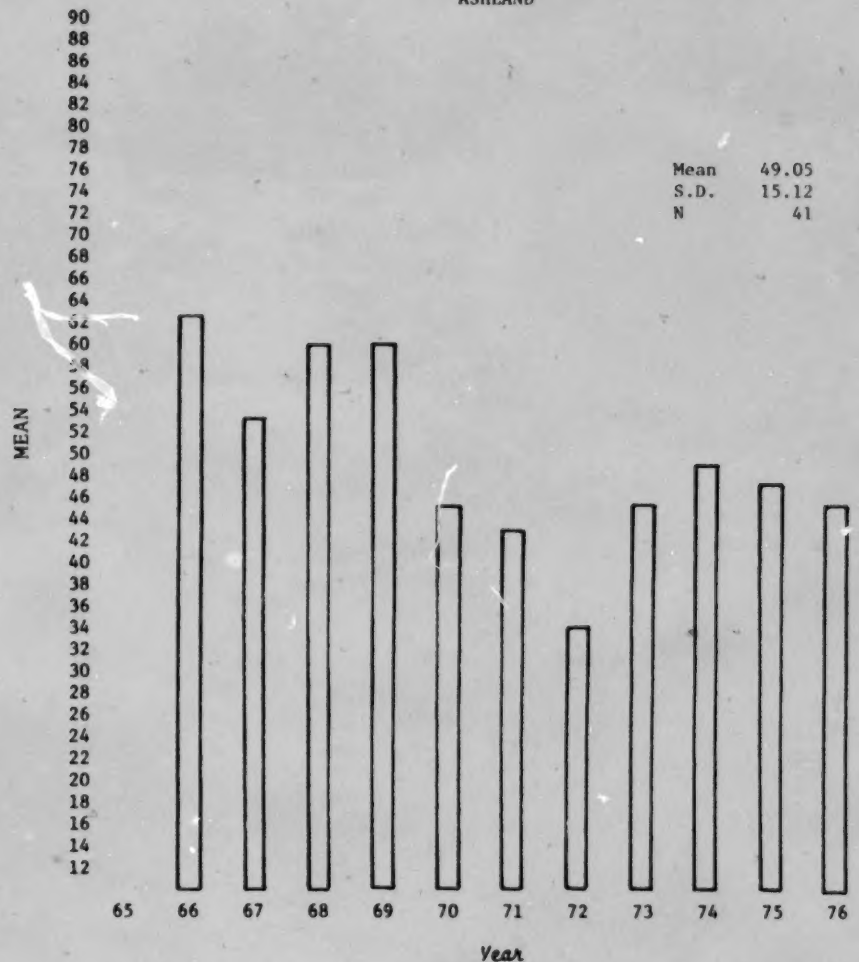
*Means for graph rounded off to nearest whole number

ASHLAND Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	4	49.50	1971	4	26.75
1966	3	49.66	1972	3	30.00
1967	4	32.35	1973	4	30.25
1968	3	43.00	1974	4	38.25
1969	3	43.00	1975	4	37.50
1970	5	31.20	1976	4	24.75

WITS-Verbal I-11th Grade
1965-1976*

ASHLAND



*Means for graph rounded off to nearest whole number

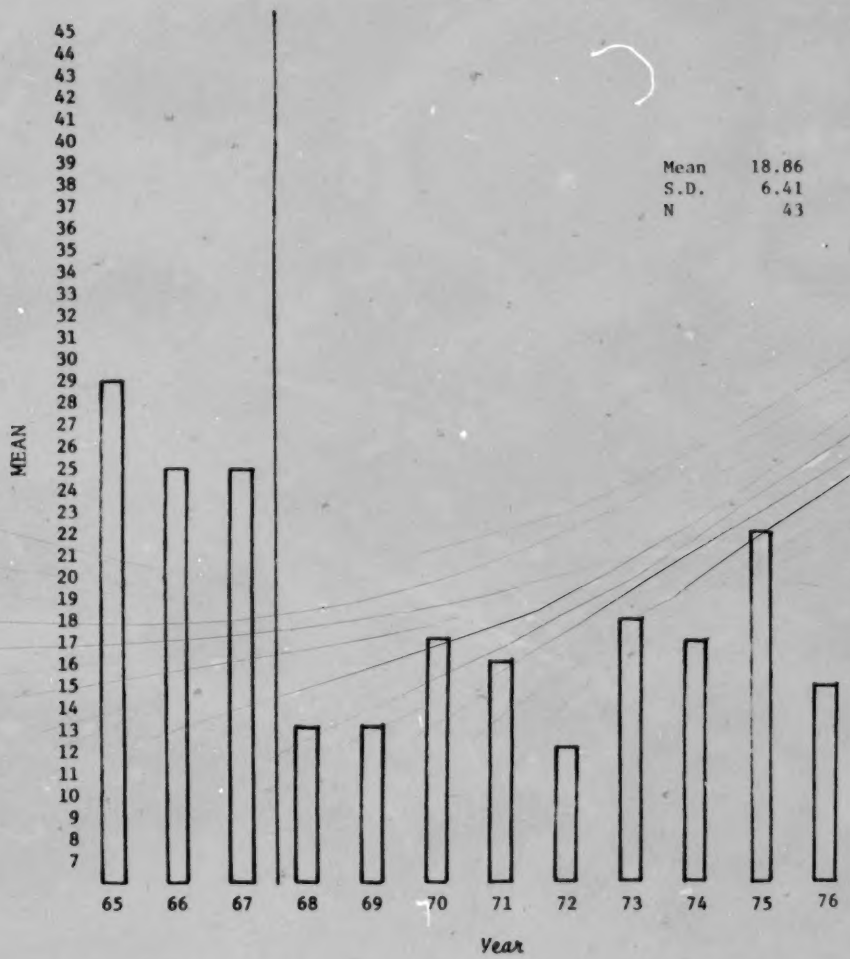
ASHLAND Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	4	43.25
1966	3	62.00	1972	3	34.33
1967	4	52.75	1973	4	45.25
1968	3	59.66	1974	4	49.00
1969	3	60.33	1975	4	46.50
1970	5	45.20	1976	4	45.25

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*

ASHLAND



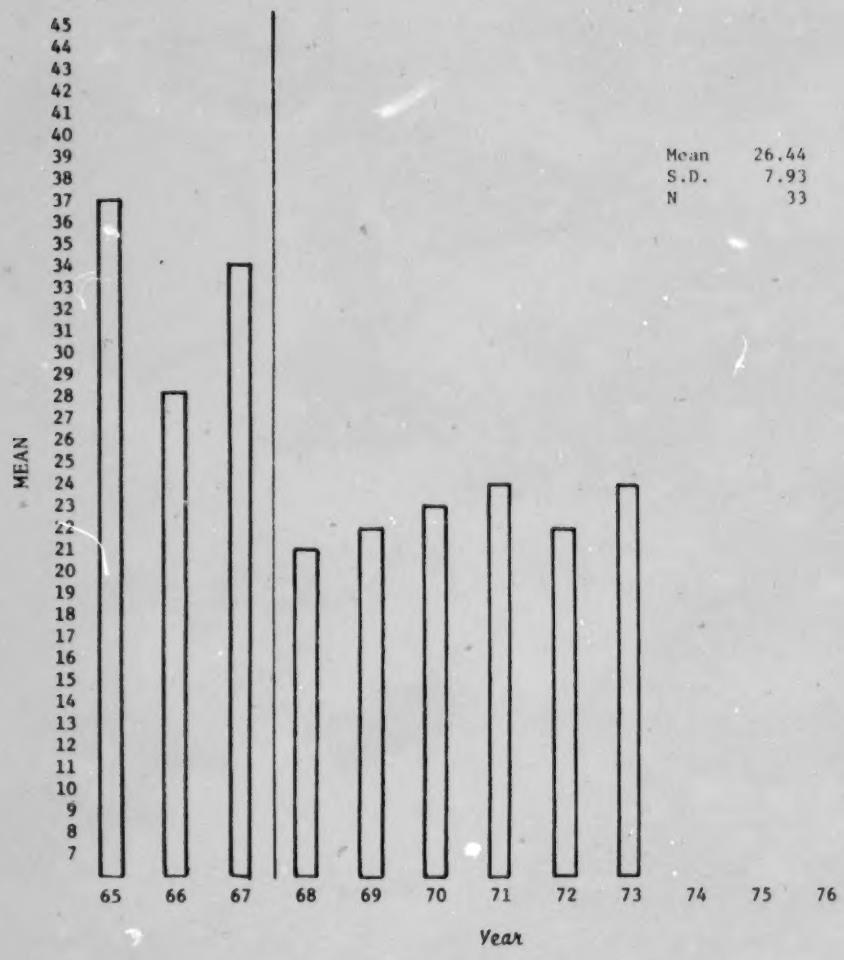
*Means for graph rounded off to nearest whole number

ASHLAND Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	4	29.25	1971	4	16.25
1966	3	25.00	1972	3	12.00
1967	4	25.25	1973	4	17.75
1968	3	13.13	1974	4	16.75
1969	3	13.13	1975	3	22.00
1970	5	17.40	1976	3	15.33

WITS-Quantitative II-11th Grade
1965-1974*

ASHLAND



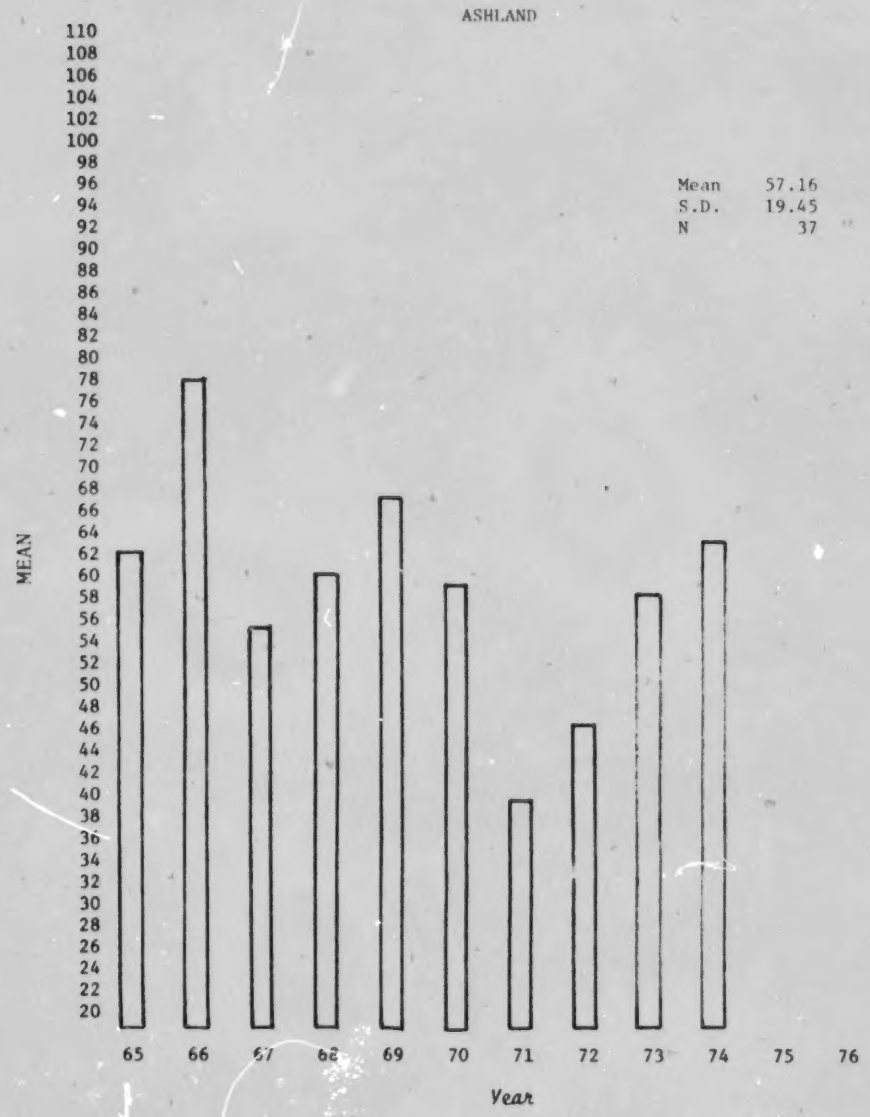
*Means for graph rounded off to nearest whole number

ASHLAND Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	4	36.50	1971	4	24.25
1966	3	28.00	1972	3	22.00
1967	4	33.50	1973	4	24.00
1968	3	20.66	1974		
1969	3	22.00	1975		
1970	5	23.40	1976		

Terman Concept Mastery Test--1965-1976*

ASHLAND



*Means for graph rounded off to nearest whole number

ASHLAND Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	4	62.00	1971	4	39.00
1966	2	78.00	1972	3	46.33
1967	4	55.25	1973	4	57.50
1968	2	59.50	1974	4	63.25
1969	3	67.00	1975	3	48.50
1970	5	59.00	1976	No Scores	

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: ASHLAND

TEST	N	School Mean	School S.D.
New Quantitative-9th	8	11.75	5.23
New Quantitative-11th	12	20.83	4.20

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

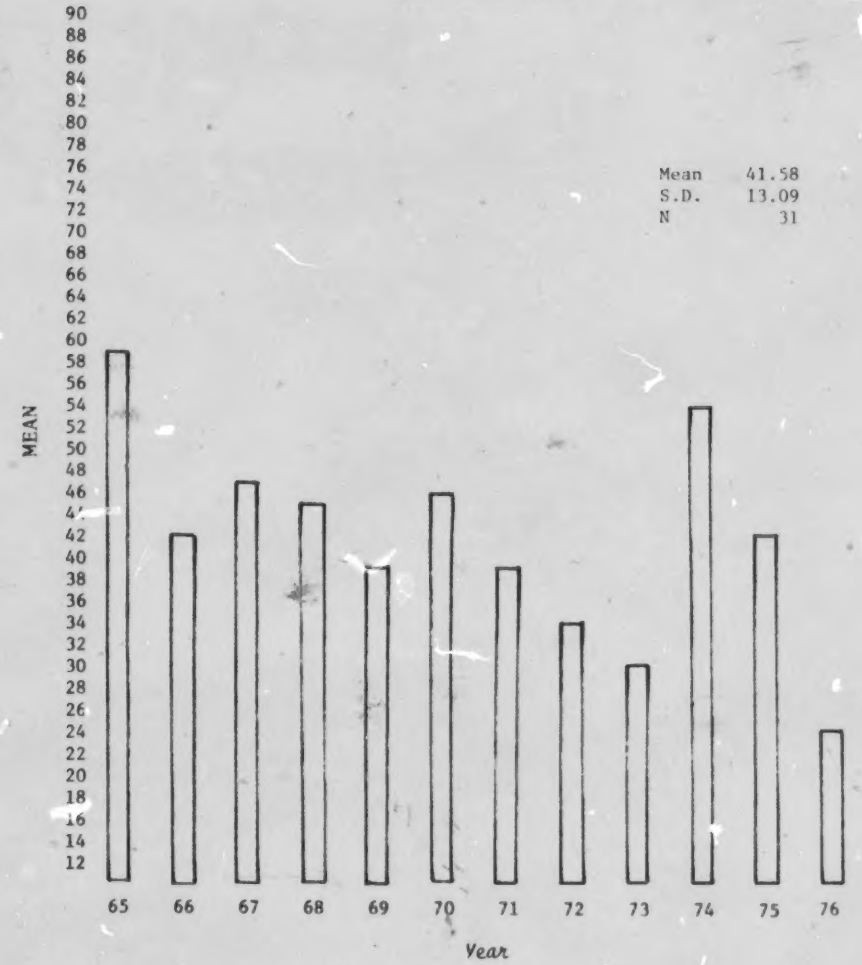
TABLE OF COMPARISONS ON MALES AND FEMALES

ASHLAND

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	20	33.40	13.47	25	37.68	14.85	43	1.0009	No
WITS-Verbal 11th 1965-1976	17	47.71	14.87	24	50.00	15.55	39	.4738	No
WITS-Quant 9th 1965-1976	18	20.61	6.80	25	17.60	5.92	41	1.5457	No
WITS-Quant 11th 1965-1976	13	29.85	6.90	19	24.11	7.89	30	2.1228	Yes
TERMAN	15	57.07	15.07	22	57.23	22.29	35	.0243	No

WITS-Verbal I-9th Grade
1965-1976*

BLACK RIVER FALLS



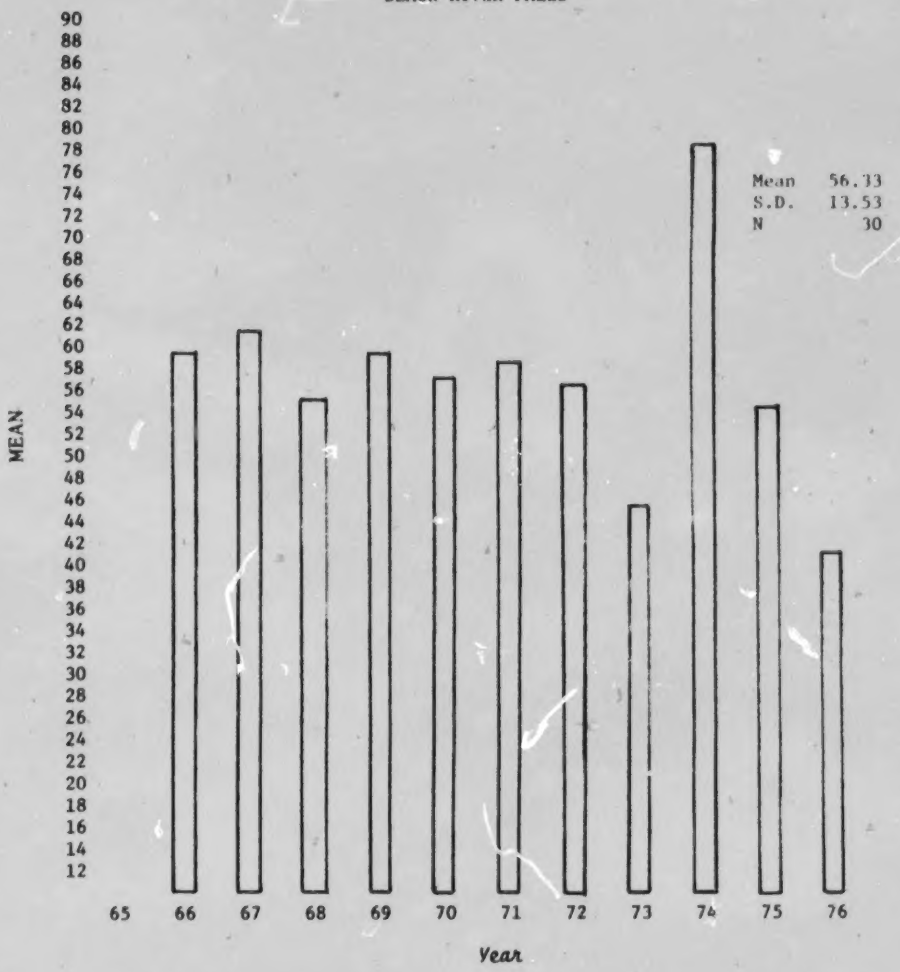
*Means for graph rounded off to nearest whole number

BLACK RIVER FALLS Summary Table: WITS-Verbal I -9th Grade

Year	N	Mean	Year	N	Mean
1965	3	59.00	1971	3	38.66
1966	3	42.00	1972	3	34.00
1967	3	45.66	1973	3	30.33
1968	3	43.33	1974	1	54.00
1969	3	39.00	1975	1	41.50
1970	3	46.00	1976	2	24.00

WITS-Verbal I-11th Grade
1965-1976*

BLACK RIVER FALLS



*Means for graph rounded off to nearest whole number

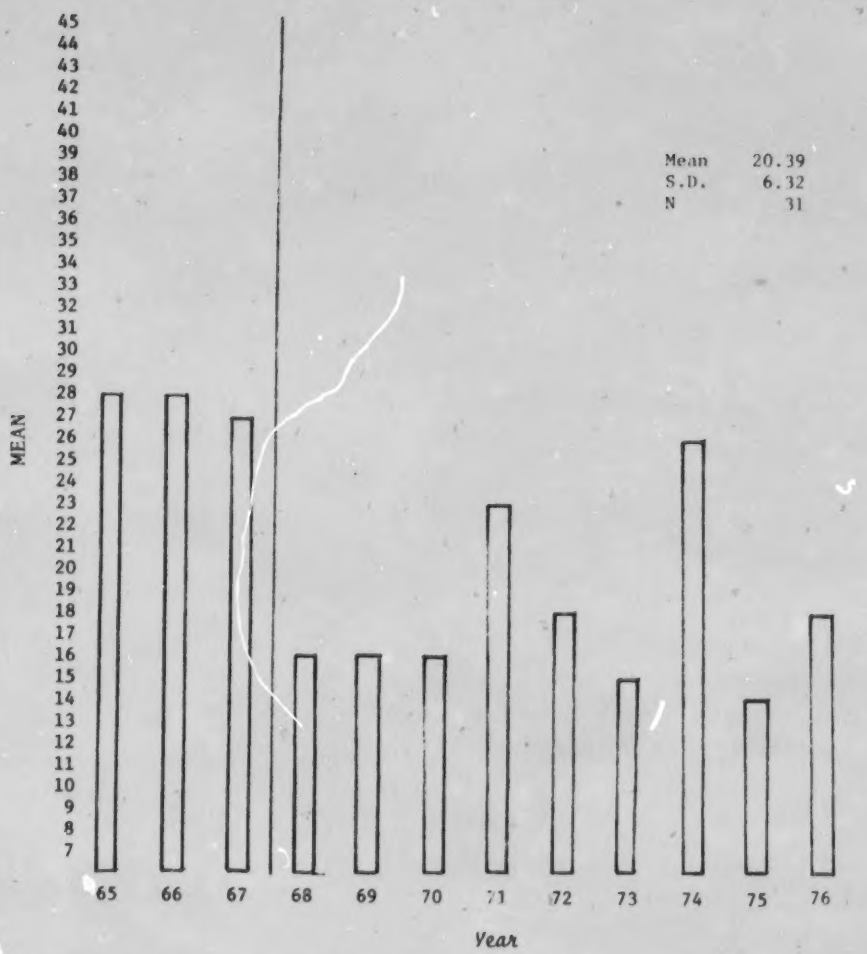
BLACK RIVER FALLS Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	3	58.33
1966	3	59.33	1972	3	55.66
1967	3	60.66	1973	3	45.33
1968	3	55.00	1974	2	77.50
1969	2	58.50	1975	3	53.66
1970	3	57.33	1976	2	41.00

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*

BLACK RIVER FALLS



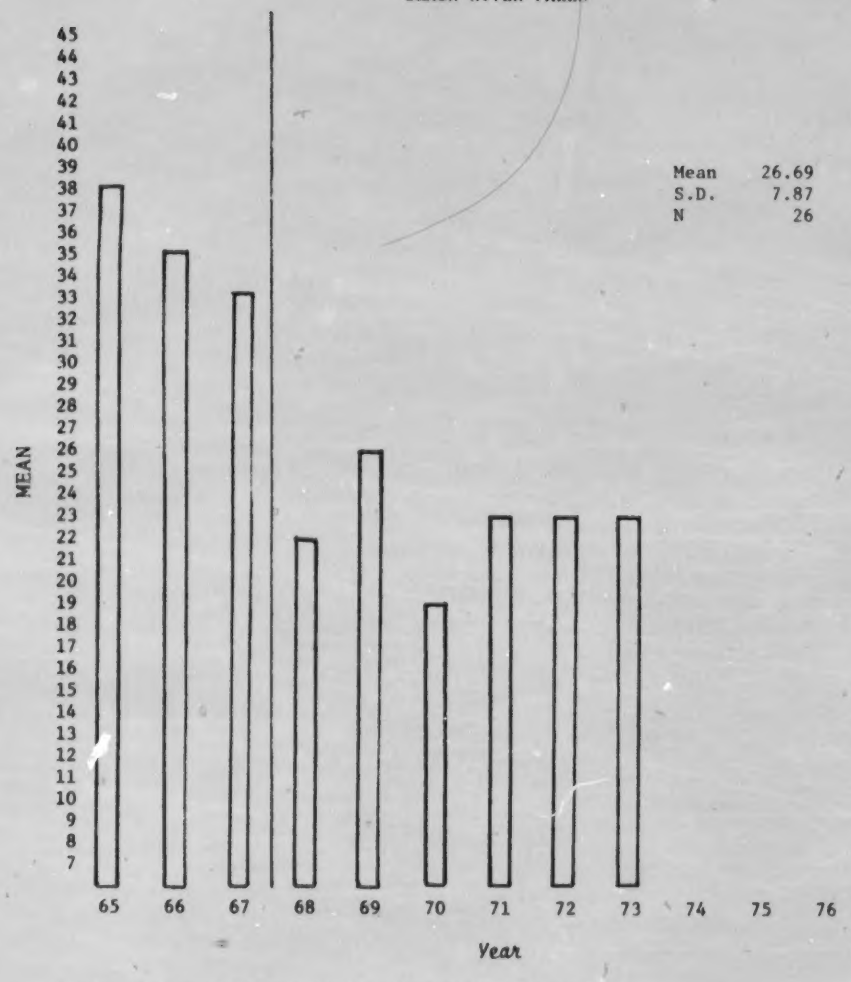
*Means for graph rounded off to nearest whole number

BLACK RIVER FALLS Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	28.00	1971	3	23.00
1966	3	27.66	1972	3	17.66
1967	3	27.00	1973	3	14.66
1968	3	16.33	1974	1	26.00
1969	3	16.00	1975	2	14.00
1970	3	15.66	1976	2	18.00

WITS-Quantitative II-11th Grade
1965-1974*

BLACK RIVER FALLS

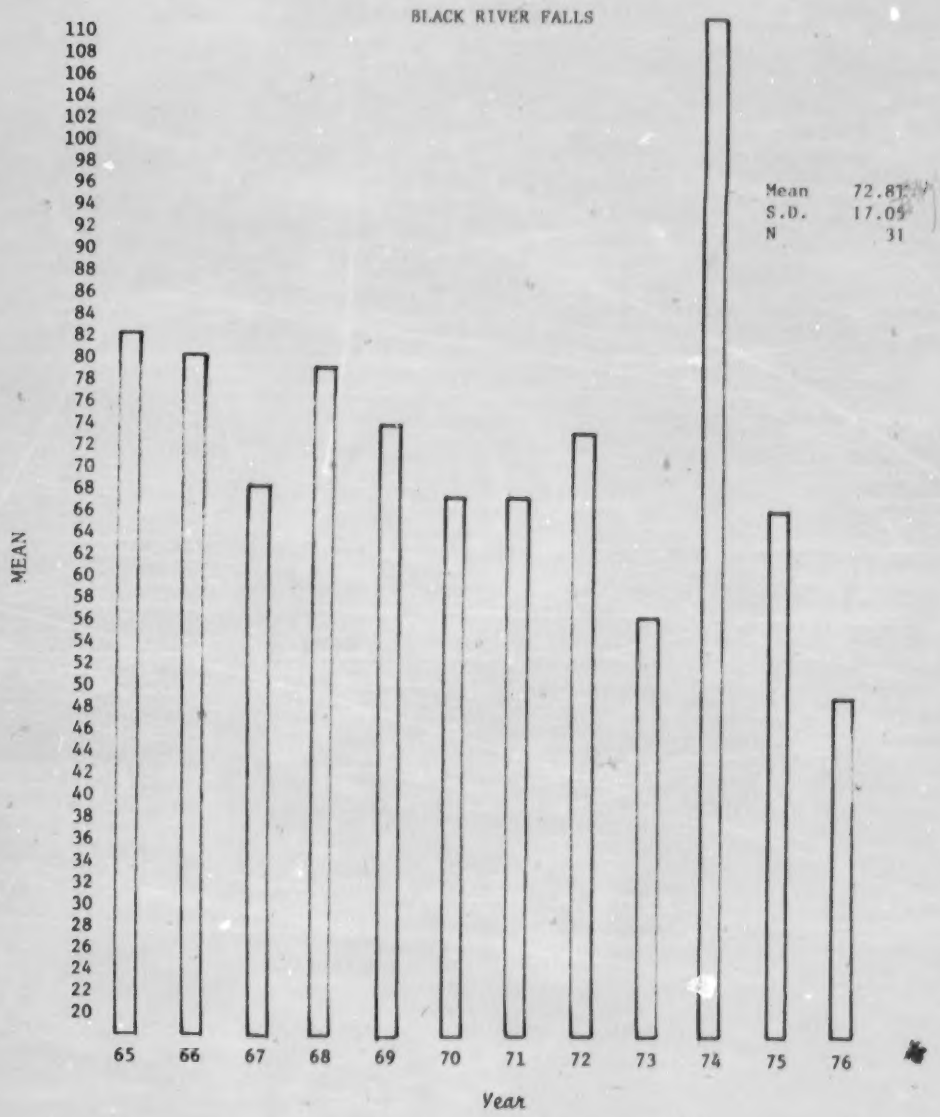


*Means for graph rounded off to nearest whole number

BLACK RIVER FALLS Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	3	38.00	1971	3	22.66
1966	3	34.66	1972	3	22.66
1967	3	33.00	1973	3	22.66
1968	3	21.66	1974	New Quantitative	
1969	2	25.50	1975	New Quantitative	
1970	3	19.00	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

BLACK RIVER FALLS Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	3	82.00	1971	3	66.66
1966	3	79.66	1972	3	72.66
1967	3	67.66	1973	3	56.33
1968	3	79.33	1974	2	109.00
1969	2	73.50	1975	2	65.50
1970	3	67.33	1976	1	49.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: BLACK RIVER FALLS

TEST	N	School Mean	School S.D.
New Quantitative-9th	11	17.55	4.39
New Quantitative-11th	8	23.25	8.07

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

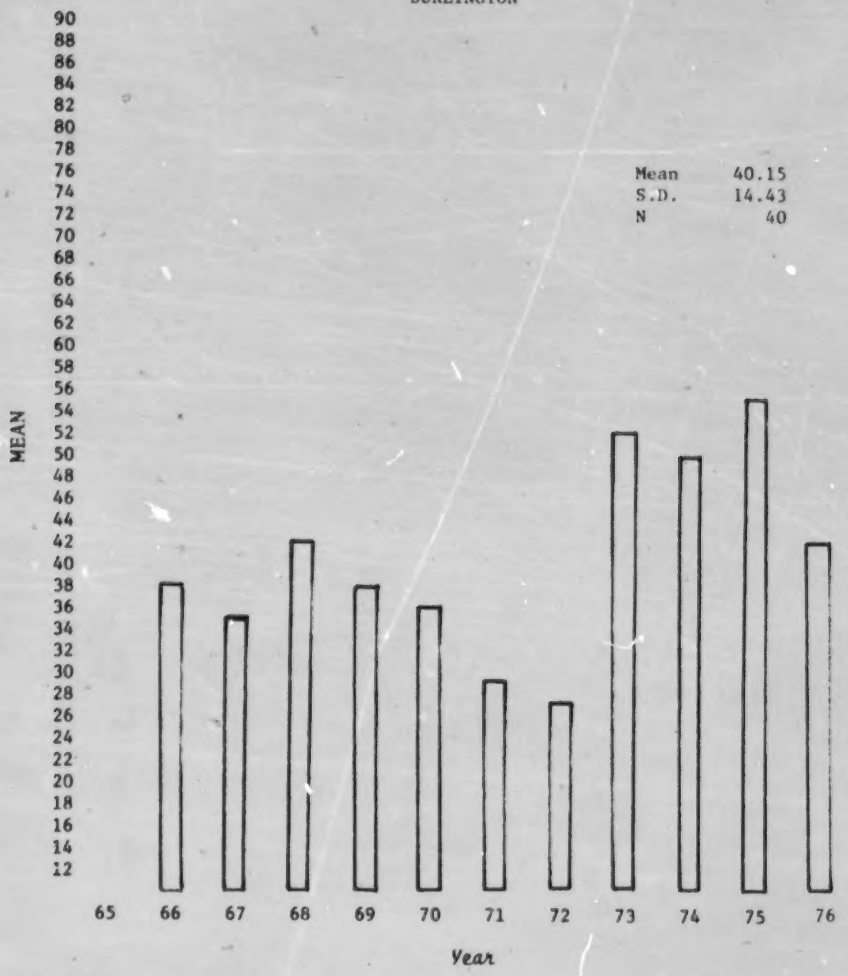
TABLE OF COMPARISONS ON MALES AND FEMALES

BLACK RIVER FALLS

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	17	44.65	12.23	14	37.86	13.56	29	1.4648	No
WITS-Verbal 11th 1965-1976	15	60.93	10.86	15	51.73	14.74	28	1.9459	Yes
WITS-Quant 9th 1965-1976	17	21.88	6.20	14	18.57	6.20	29	1.4793	No
WITS-Quant 11th 1965-1976	14	28.21	8.22	12	24.92	7.38	24	1.0684	No
TERMAN	16	78.44	15.15	15	66.80	17.39	29	1.9905	Yes

WITS-Verbal I-9th Grade
1965-1976*

BURLINGTON



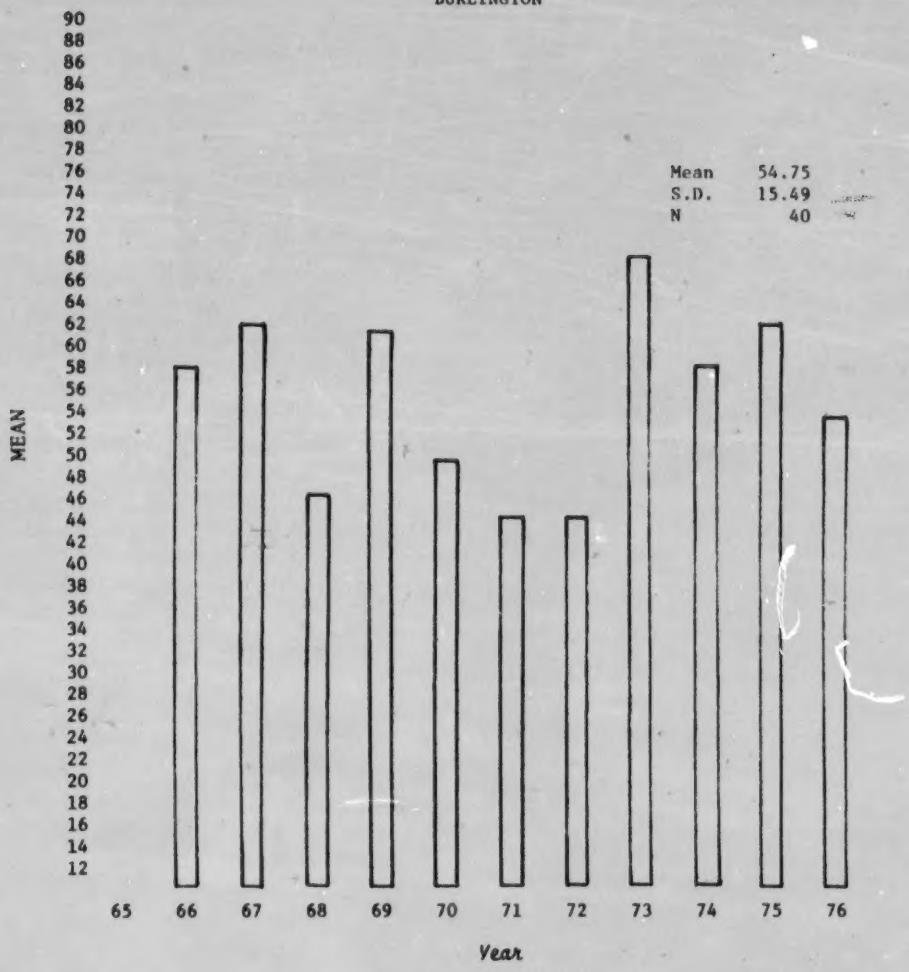
*Means for graph rounded off to nearest whole number

BURLINGTON Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	5	28.80
1966	3	37.66	1972	4	26.75
1967	4	34.50	1973	4	52.00
1968	3	42.33	1974	3	49.66
1969	3	37.66	1975	4	54.75
1970	3	36.33	1976	4	41.50

WITS-Verbal I-11th Grade
1965-1976*

BURLINGTON



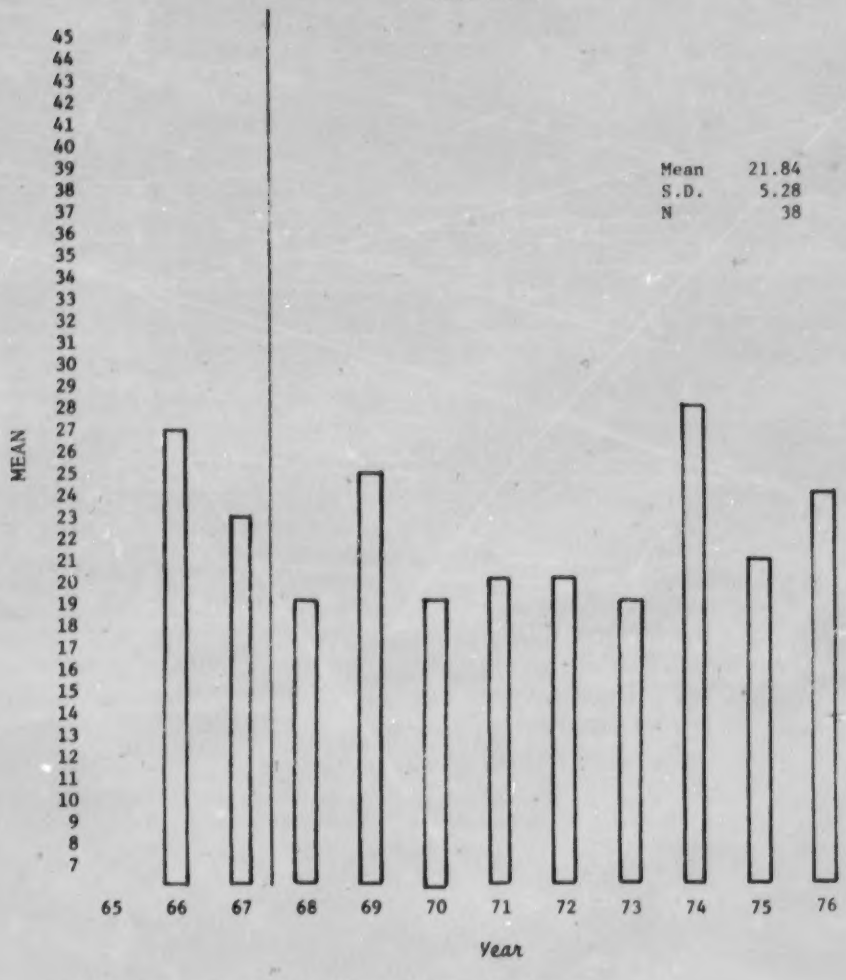
*Means for graph rounded off to nearest whole number

BURLINGTON Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	5	44.40
1966	3	57.33	1972	4	43.50
1967	4	61.50	1973	4	68.00
1968	3	45.66	1974	3	58.33
1969	3	61.00	1975	4	62.25
1970	3	49.33	1976	4	53.00

WITS-Quantitative II-9th Grade
1965-1976*

BURLINGTON

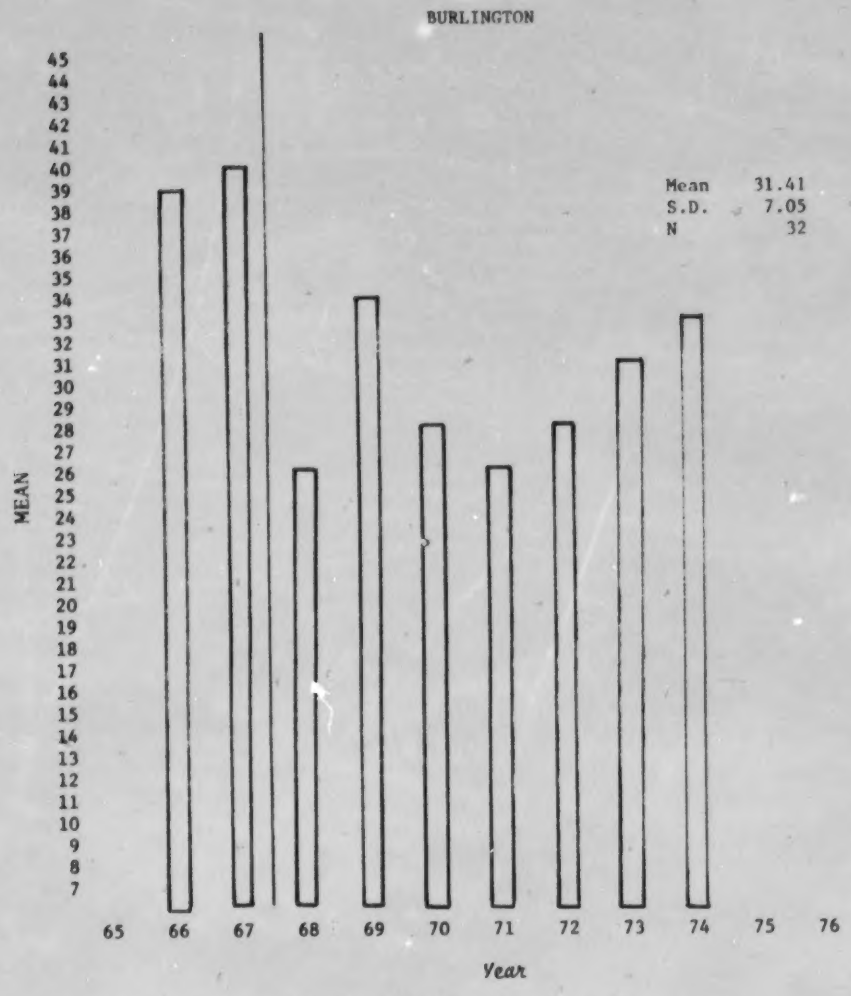


*Means for graph rounded off to nearest whole number

BURLINGTON Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	5	19.80
1966	3	27.33	1972	4	19.75
1967	4	22.50	1973	4	18.50
1968	3	19.00	1974	3	28.33
1969	3	25.33	1975	4	21.00
1970	3	18.66	1976	2	24.00

WITS-Quantitative II-11th Grade
1965-1974*

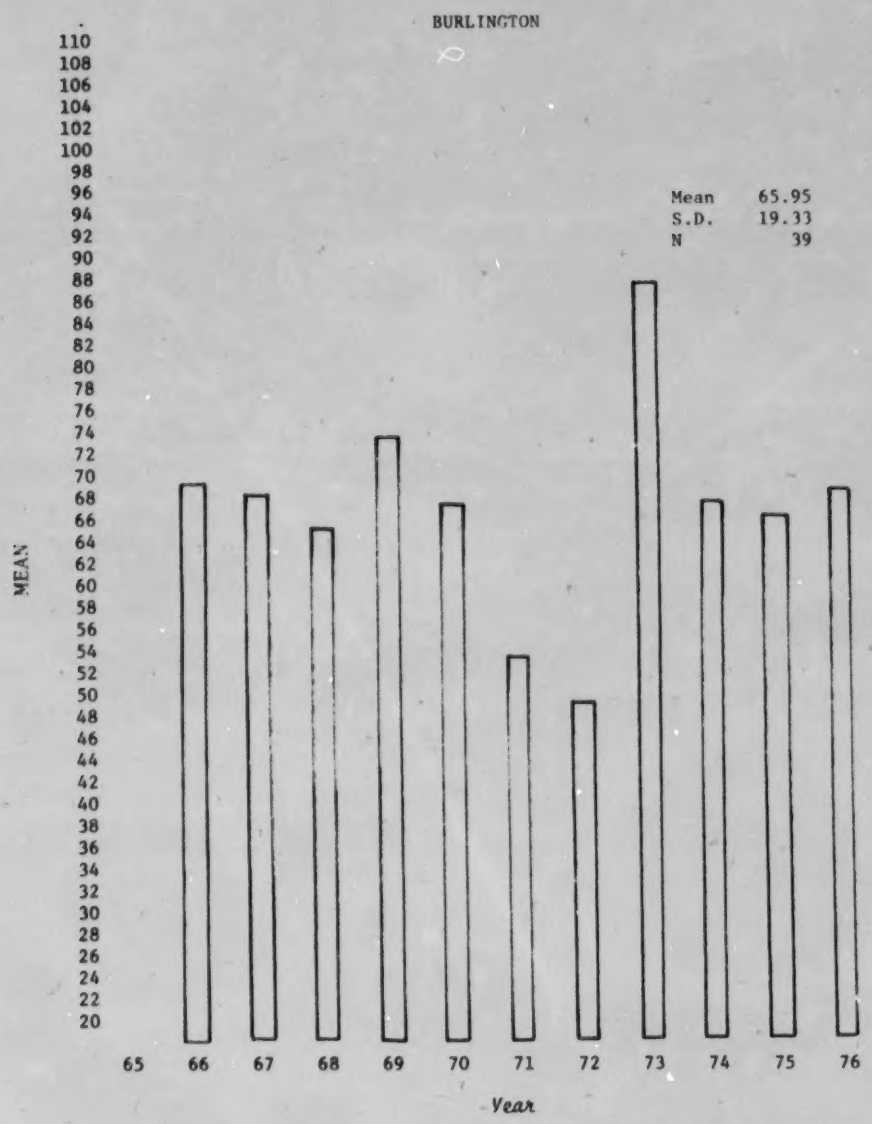


*Means for graph rounded off to nearest whole number

BURLINGTON Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	5	26.00
1966	3	39.00	1972	4	28.25
1967	4	40.00	1973	4	30.50
1968	3	26.33	1974	3	33.00
1969	3	33.66	1975	New Quantitative	
1970	3	28.00	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

BURLINGTON Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	5	52.60
1966	3	69.00	1972	4	48.50
1967	4	68.00	1973	4	87.00
1968	3	64.66	1974	3	69.00
1969	3	72.66	1975	4	66.00
1970	3	67.33	1976	3	67.66

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: BURLINGTON

TEST	N	School Mean	School S.D.
New Quantitative-9th	12	16.50	5.39
New Quantitative-11th	10	28.40	6.60

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

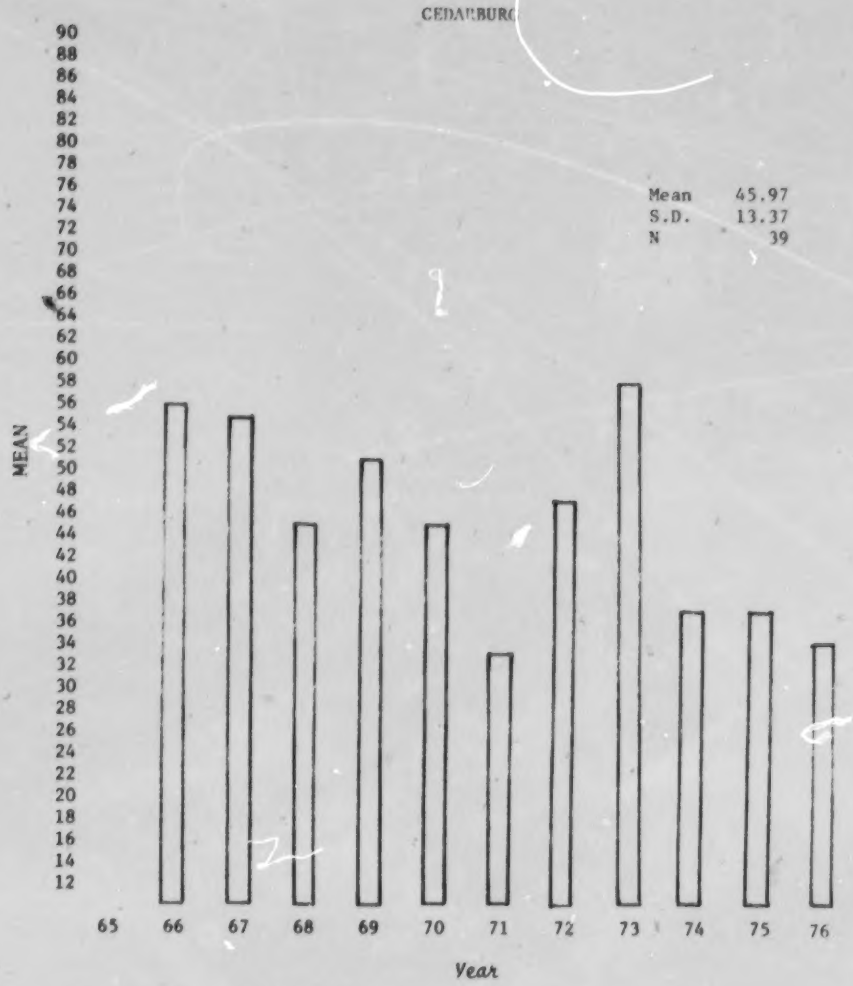
TABLE OF COMPARISONS ON MALES AND FEMALES

BURLINGTON

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	22	41.59	13.53	18	38.39	15.66	38	.6936	No
WITS-Verbal 11th 1965-1976	22	54.27	14.13	18	55.33	17.41	38	.02128	No
WITS-Quant 9th 1965-1976	20	23.55	4.98	18	19.94	5.08	36	2.2074	Yes
WITS-Quant 11th 1965-1976	17	32.82	5.73	15	29.80	8.21	30	1.2197	No
TERMAN	21	66.52	21.60	18	66.28	16.90	37	.1981	No

WITS-Verbal I-9th Grade
1965-1976*

CEDARBURG



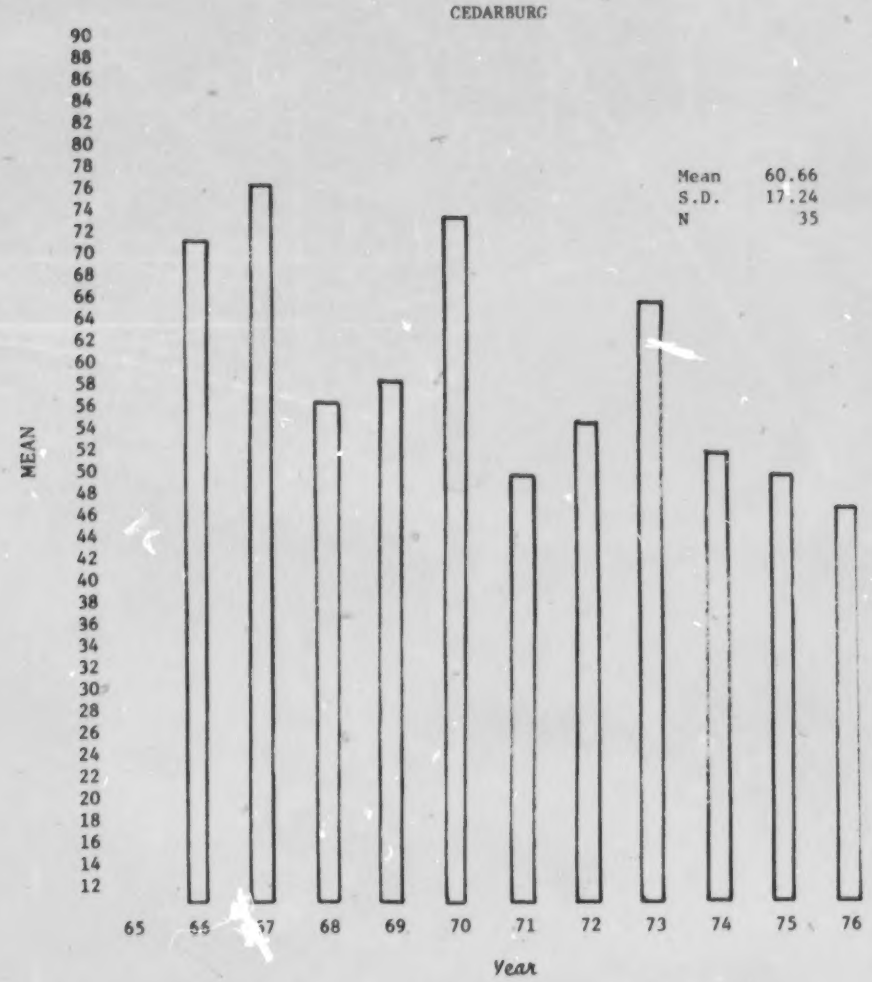
*Means for graph rounded off to nearest whole number

CEDARBURG Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	4	32.50
1966	4	56.00	1972	4	47.25
1967	5	55.40	1973	3	58.00
1968	2	44.50	1974	3	37.33
1969	4	51.00	1975	4	36.50
1970	4	45.25	1976	2	33.50

WITS-Verbal I-11th Grade
1965-1976*

CEDARBURG



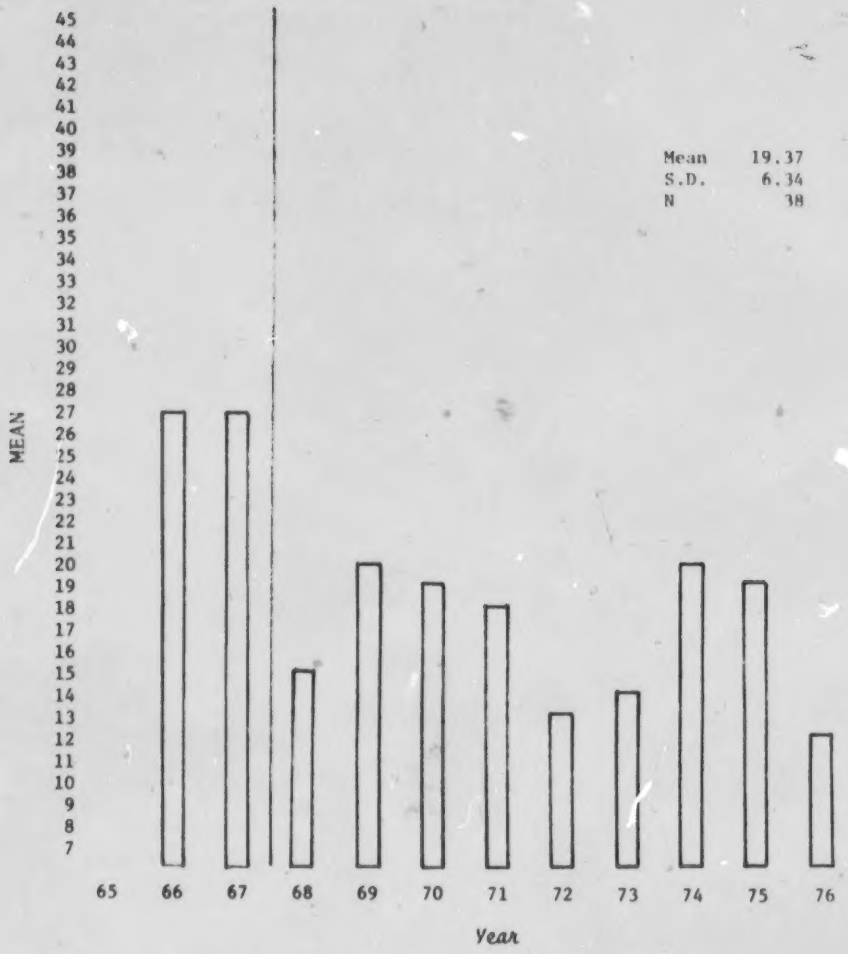
*Means for graph rounded off to nearest whole number

CEDARBURG Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	4	49.00
1966	4	71.25	1972	4	53.50
1967	5	75.60	1973	2	65.00
1968	2	55.60	1974	2	50.50
1969	4	57.66	1975	2	48.50
1970	4	72.50	1976	2	46.00

WITS-Quantitative II-9th Grade
1965-1976*

CEDARBURG



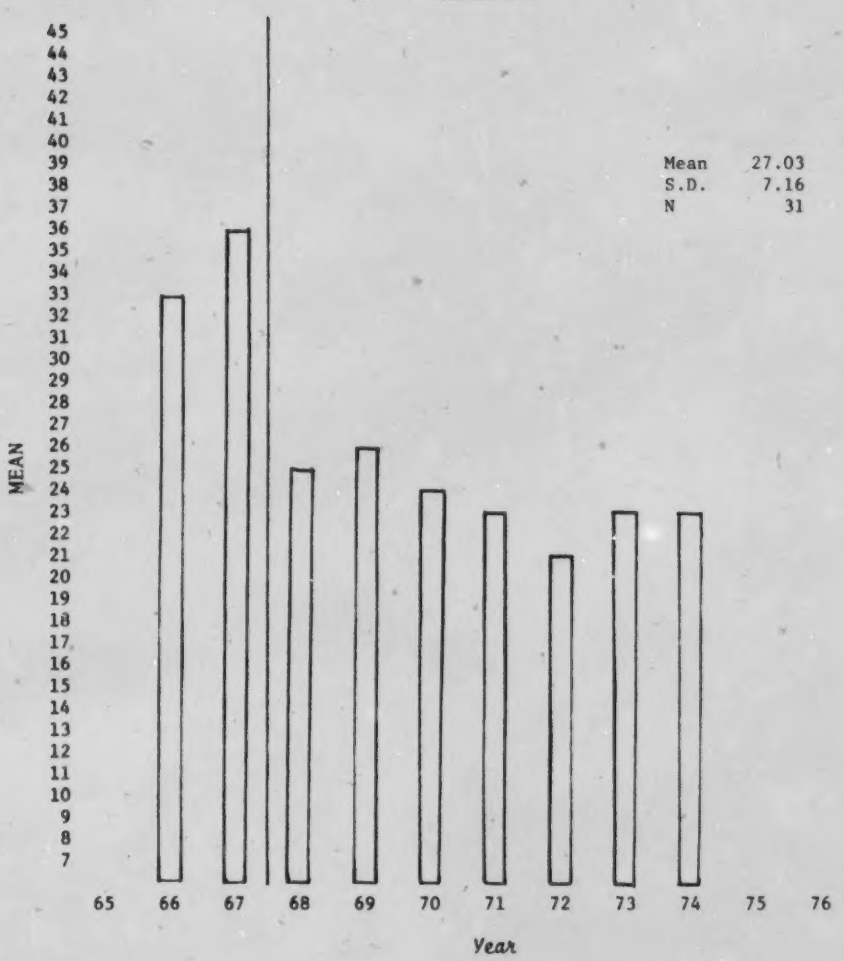
*Means for graph rounded off to nearest whole number

CEDARBURG Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	no Scores		1971	3	18.33
1966	4	27.25	1972	4	13.25
1967	5	27.40	1973	3	14.00
1968	2	15.00	1974	3	20.00
1969	4	19.50	1975	4	18.50
1970	4	18.50	1976	2	12.00

WITS-Quantitative II-11th Grade
1965-1974*

CEDARBURG

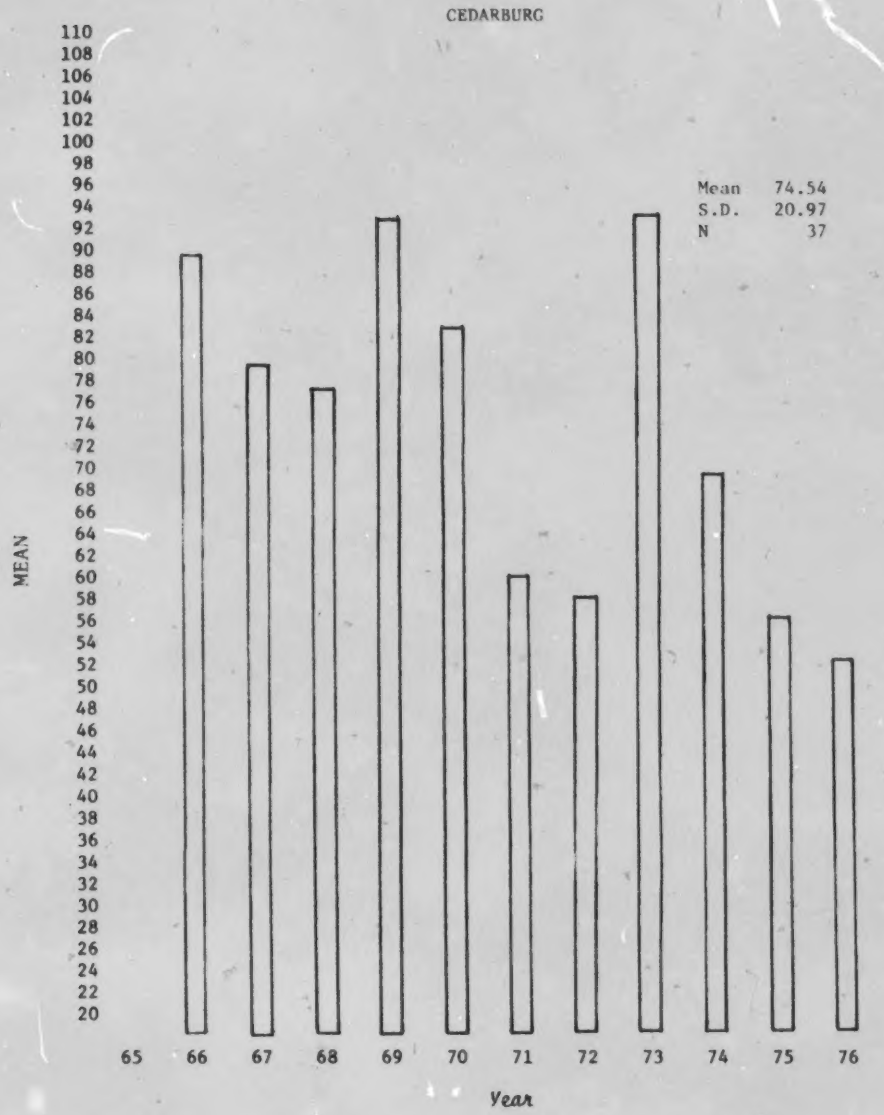


*Means for graph rounded off to nearest whole number

CEDARBURG Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	4	23.25
1966	4	33.25	1972	4	21.25
1967	5	35.80	1973	2	23.00
1968	2	24.50	1974	2	22.50
1969	4	26.00	1975	New Quantitative	
1970	4	23.75	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

CEDARBURG Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	4	60.00
1966	4	89.25	1972	3	57.66
1967	4	79.25	1973	3	92.66
1968	2	77.00	1974	3	69.33
1969	4	92.75	1975	4	56.00
1970	4	83.00	1976	2	52.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: CEDARBURG

TEST	N	School Mean	School S.D.
New Quantitative-9th	13	19.38	5.81
New Quantitative-11th	9	29.67	5.17

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

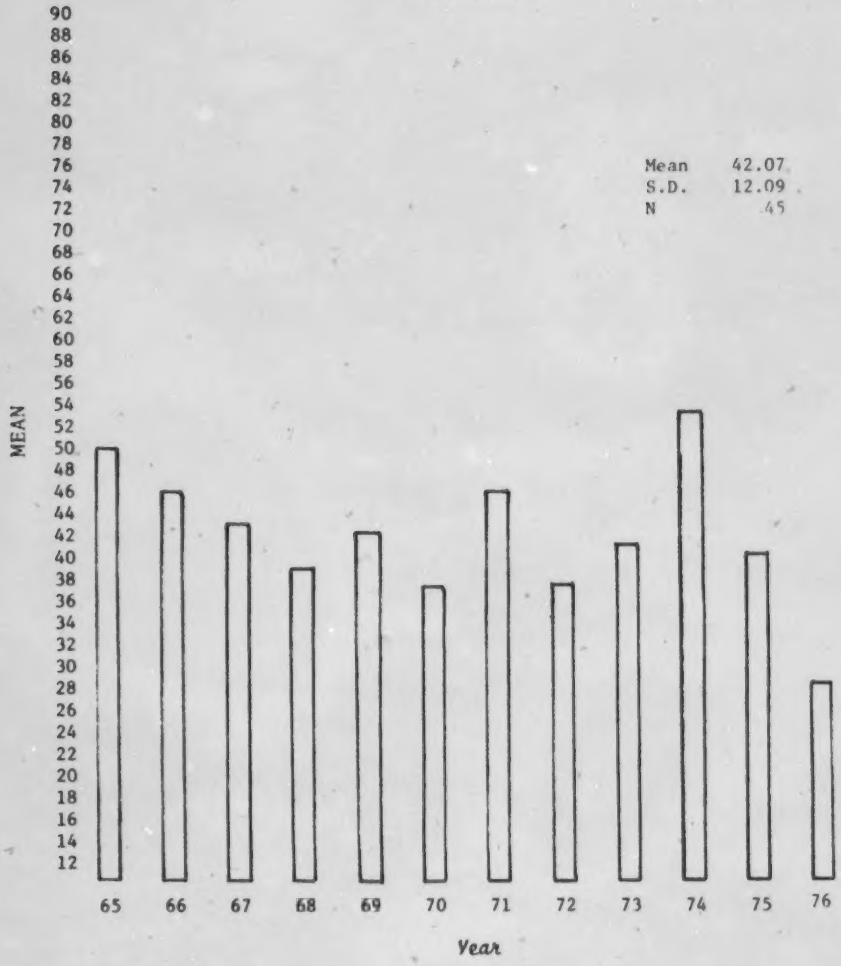
TABLE OF COMPARISONS ON MALES AND FEMALES

CEDARBURG

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	19	51.47	12.58	20	40.75	12.20	37	2.7029	Yes
WITS-Verbal 11th 1965-1976	18	64.89	18.58	17	56.18	14.95	33	1.5231	No
WITS-Quant 9th 1965-1976	18	21.00	7.01	20	17.90	5.43	36	1.5323	No
WITS-Quant 11th 1965-1976	16	29.69	8.28	15	24.20	4.46	29	2.2753	Yes
TERMAN	18	83.72	19.23	19	65.84	19.14	35	2.8337	Yes

WITS-Verbal I-9th Grade
1965-1976*

CLINTONVILLE



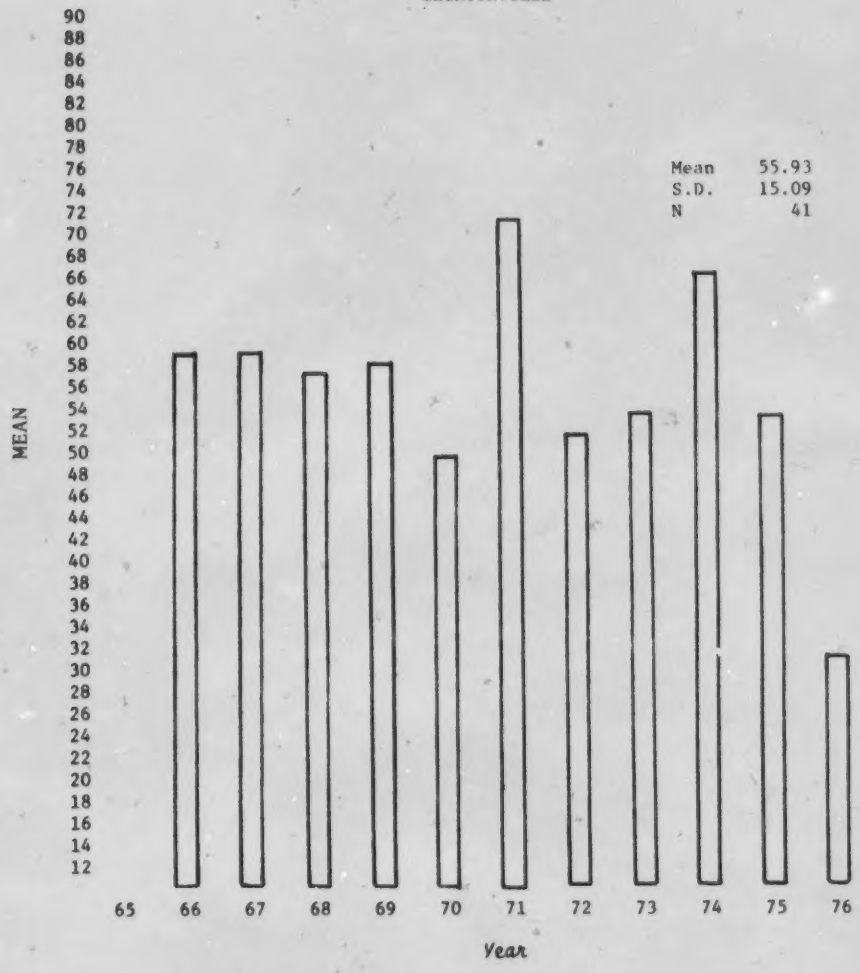
*Means for graph rounded off to nearest whole number

CLINTONVILLE Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	50.33	1971	4	45.75
1966	4	45.75	1972	5	37.00
1967	4	42.75	1973	3	41.33
1968	4	38.50	1974	4	52.75
1969	4	42.00	1975	4	39.50
1970	4	37.25	1976	2	28.00

WITS-Verbal I-11th Grade
1965-1976*

CLINTONVILLE



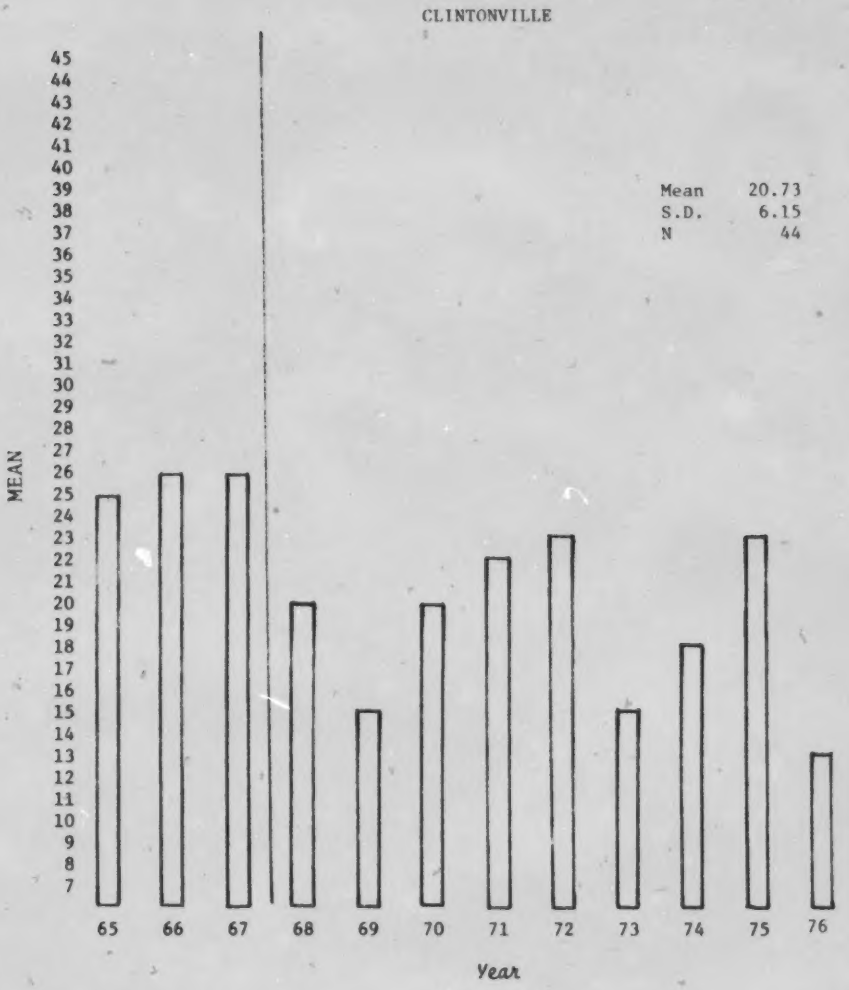
*Means for graph rounded off to nearest whole number

CLINTONVILLE Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	3	71.00
1966	4	58.75	1972	4	50.75
1967	4	59.25	1973	3	53.00
1968	5	56.60	1974	4	65.50
1969	4	57.50	1975	4	53.25
1970	4	49.00	1976	2	31.00

WITS-Quantitative II-9th Grade
1965-1976*

CLINTONVILLE



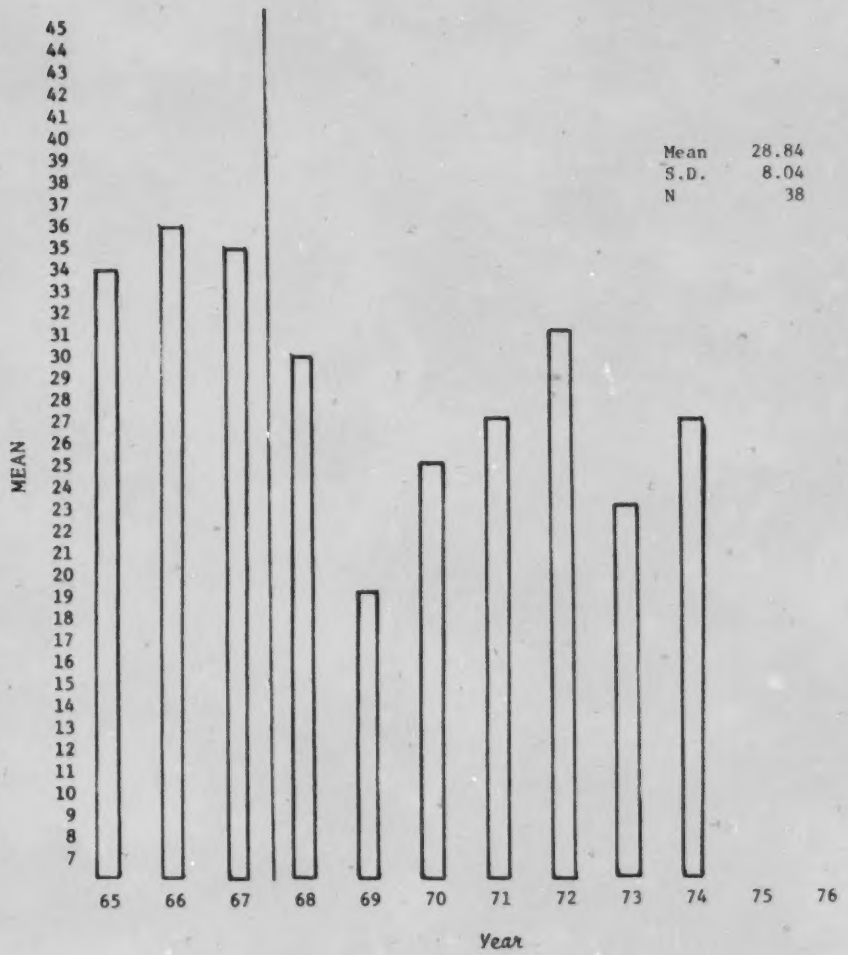
*Means for graph rounded off to nearest whole number

CLINTONVILLE Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	25.33	1971	4	22.00
1966	4	25.50	1972	5	23.40
1967	4	25.50	1973	3	15.33
1968	4	20.25	1974	4	17.75
1969	4	15.25	1975	3	23.00
1970	4	19.50	1976	2	12.50

WITS-Quantitative II-11th Grade
1965-1974*

CLINTONVILLE



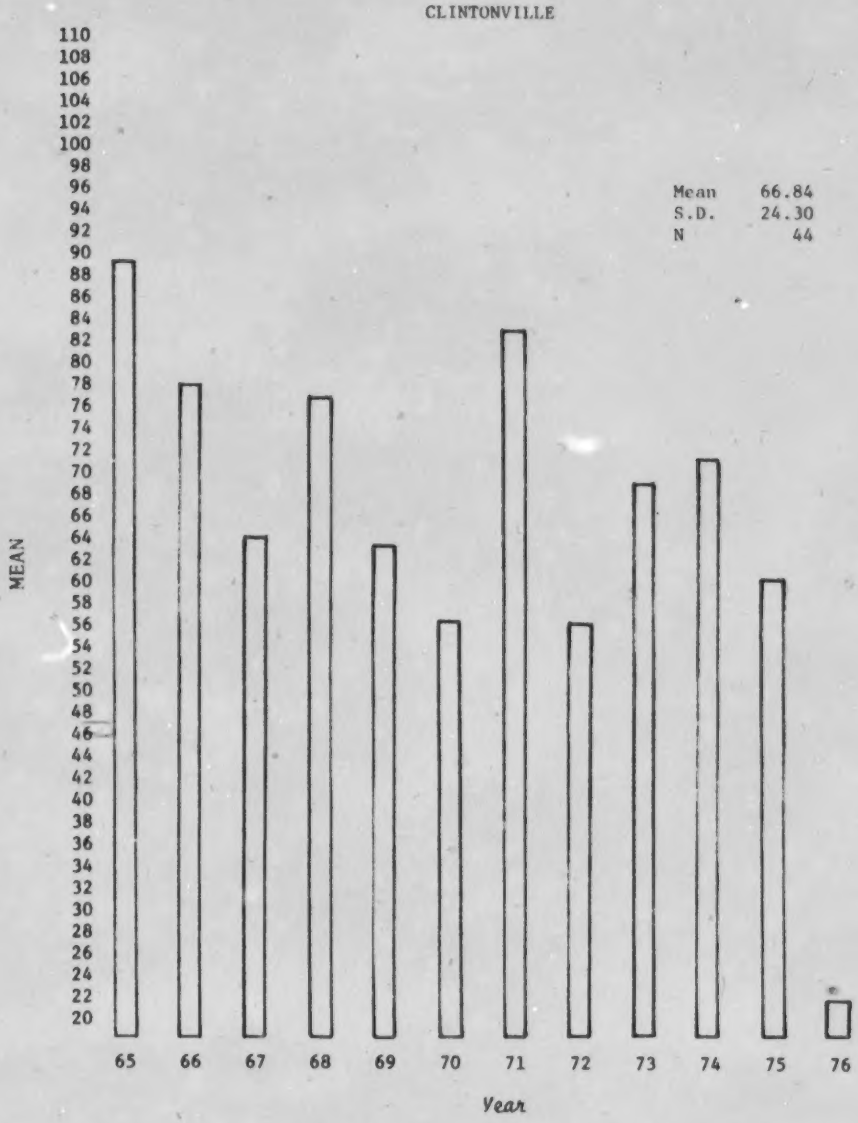
*Means for graph rounded off to nearest whole number

CLINTONVILLE Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	3	34.33	1971	3	27.00
1966	4	36.25	1972	4	31.00
1967	4	35.00	1973	3	22.66
1968	5	30.00	1974	4	26.75
1969	4	19.25	1975	New Quantitative	
1970	4	25.25	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*

CLINTONVILLE



*Means for graph rounded off to nearest whole number

CLINTONVILLE Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	3	89.00	1971	4	82.75
1966	4	77.75	1972	5	56.40
1967	3	64.33	1973	2	68.50
1968	4	77.25	1974	5	71.00
1969	4	63.00	1975	4	59.50
1970	4	56.00	1976	2	21.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: CLINTONVILLE

TEST	N	School Mean	School S.D.
New Quantitative-9th	13	15.92	4.46
New Quantitative-11th	10	26.60	5.80

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

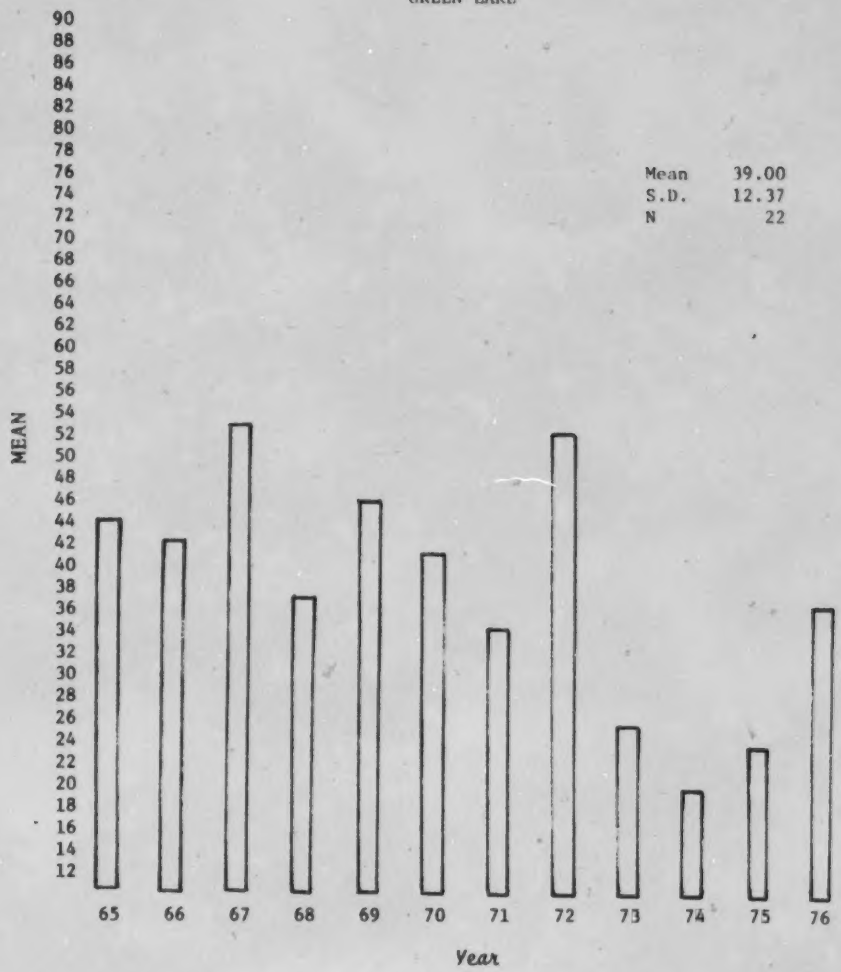
TABLE OF COMPARISONS ON MALES AND FEMALES

CLINTONVILLE

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	19	41.68	13.19	26	42.35	11.50	43	.1792	No
WITS-Verbal 11th 1965-1976	17	55.59	16.62	24	56.17	14.26	39	.1194	No
WITS-Quant 9th 1965-1976	18	23.83	6.39	26	18.58	5.05	42	3.0431	Yes
WITS-Quant 11th 1965-1976	15	35.20	6.34	23	24.70	6.14	36	5.0913	Yes
TERMAN	21	69.43	23.93	23	64.48	24.93	42	.6706	No

WITS-Verbal I-9th Grade
1965-1976*

GREEN LAKE



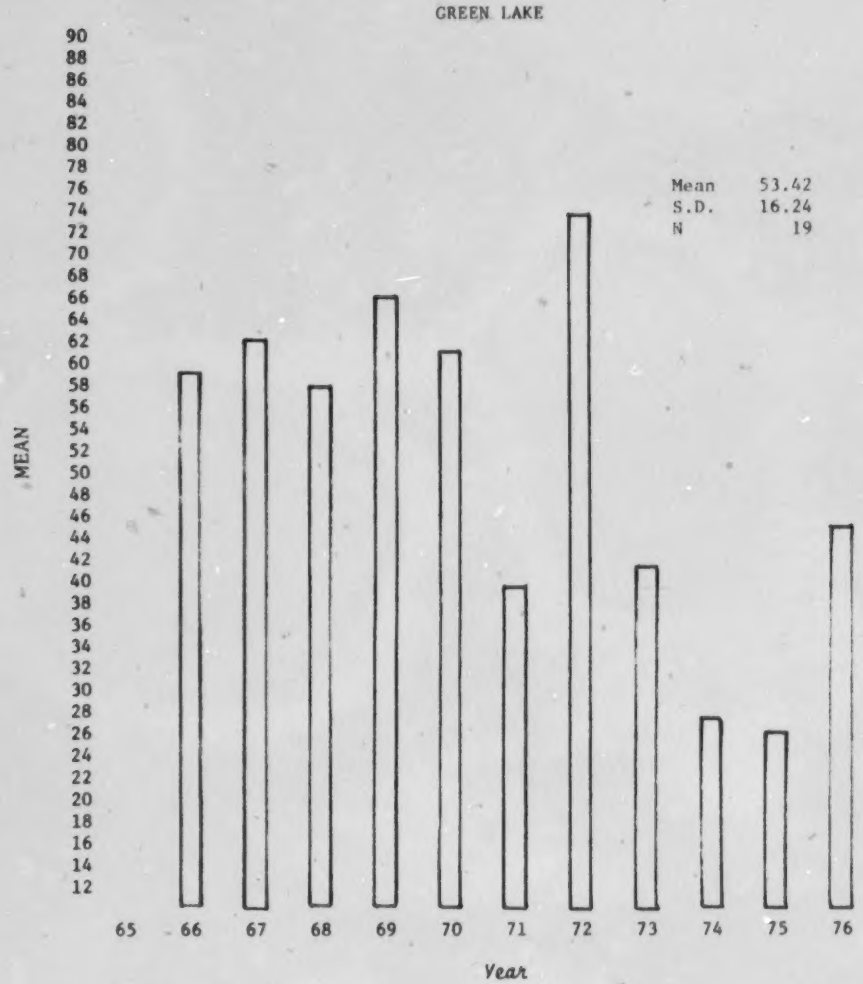
*Means for graph rounded off to nearest whole number

GREEN LAKE Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	44.00	1971	1	34.00
1966	2	41.50	1972	2	51.50
1967	2	52.50	1973	2	25.00
1968	3	37.33	1974	1	19.00
1969	1	46.00	1975	1	23.00
1970	3	41.00	1976	2	36.00

WITS-Verbal I-11th Grade
1965-1976*

GREEN LAKE



*Means for graph rounded off to nearest whole number

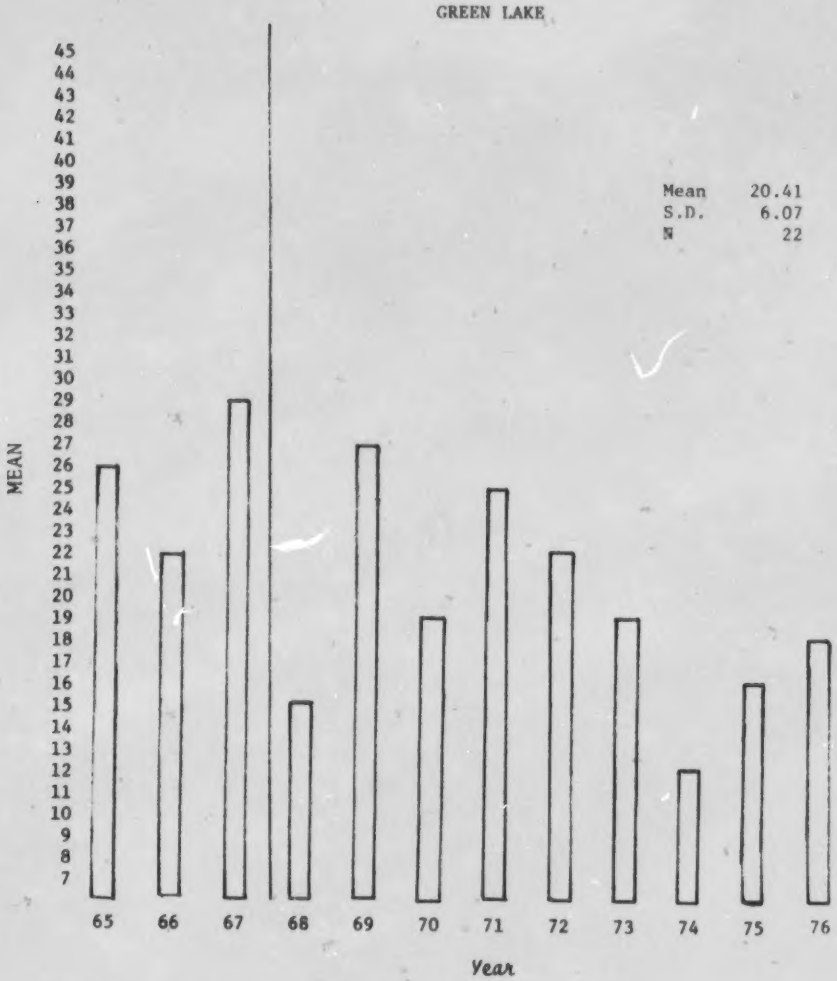
GREEN LAKE Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	1	39.00
1966	2	58.50	1972	2	73.50
1967	1	62.00	1973	2	41.00
1968	3	58.33	1974	1	27.00
1969	1	66.00	1975	1	26.00
1970	3	61.33	1976	2	45.00

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*

GREEN LAKE

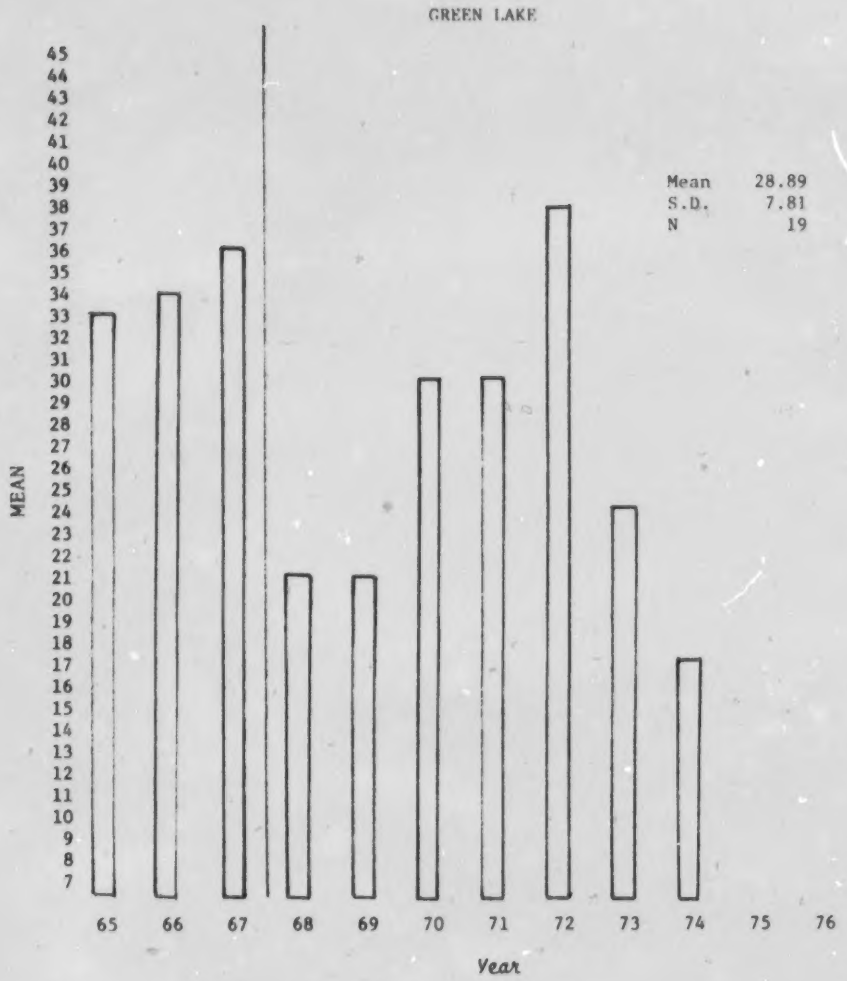


*Means for graph rounded off to nearest whole number

GREEN LAKE Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	25.50	1971	1	25.00
1966	2	21.50	1972	2	22.00
1967	2	28.50	1973	2	18.50
1968	3	15.33	1974	1	12.00
1969	1	27.00	1975	1	16.00
1970	3	18.66	1976	2	17.50

WITS-Quantitative II-11th Grade
1965-1974*



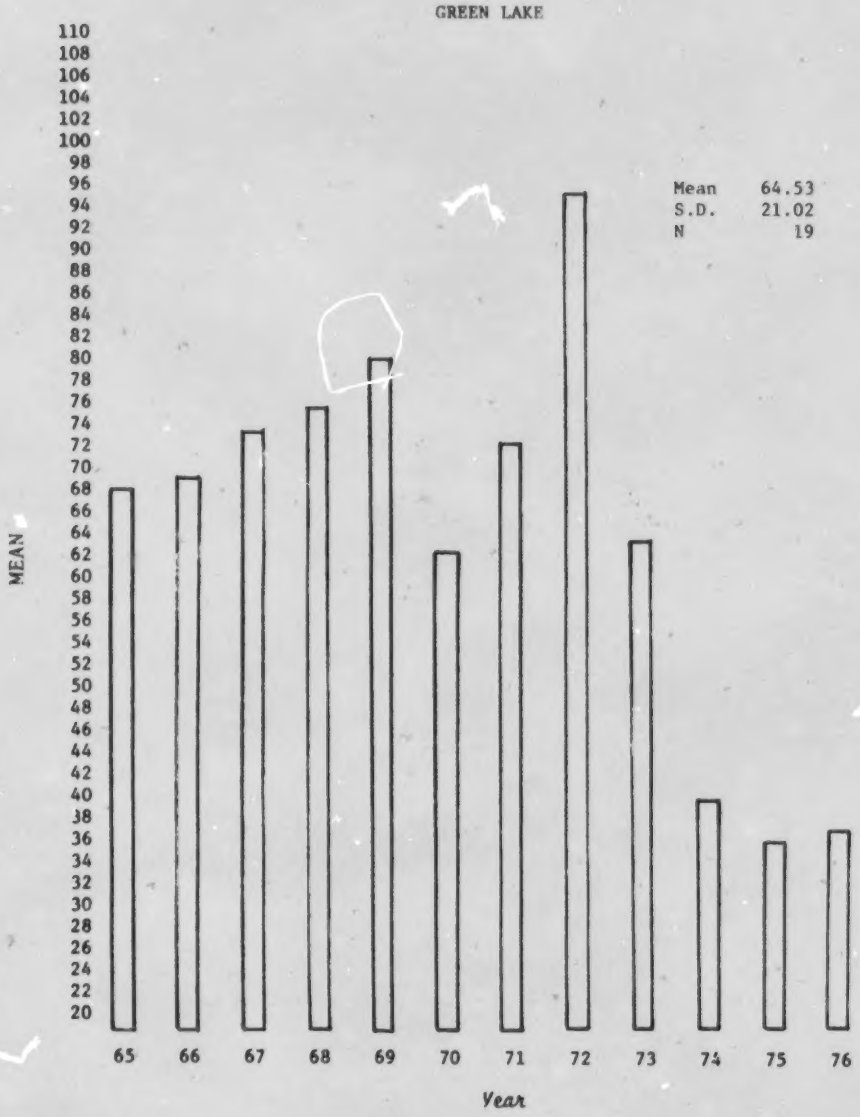
*Means for graph rounded off to nearest whole number

GREEN LAKE Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	2	33.00	1971	1	30.00
1966	2	34.00	1972	2	37.50
1967	2	36.00	1973	2	23.50
1968	3	21.00	1974	1	17.00
1969	1	21.00	1975	New Quantitative	
1970	3	30.00	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*

GREEN LAKE



*Means for graph rounded off to nearest whole number

GREEN LAKE Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	2	67.50	1971	1	72.00
1966	2	68.50	1972	2	95.00
1967	2	73.00	1973	2	60.50
1968	1	75.00	1974	1	39.00
1969	1	80.00	1975	1	35.00
1970	2	62.00	1976	2	36.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: GREEN LAKE

TEST	N	School Mean	School S.D.
New Quantitative-9th	6	13.17	3.71
New Quantitative-11th	6	22.00	6.75

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

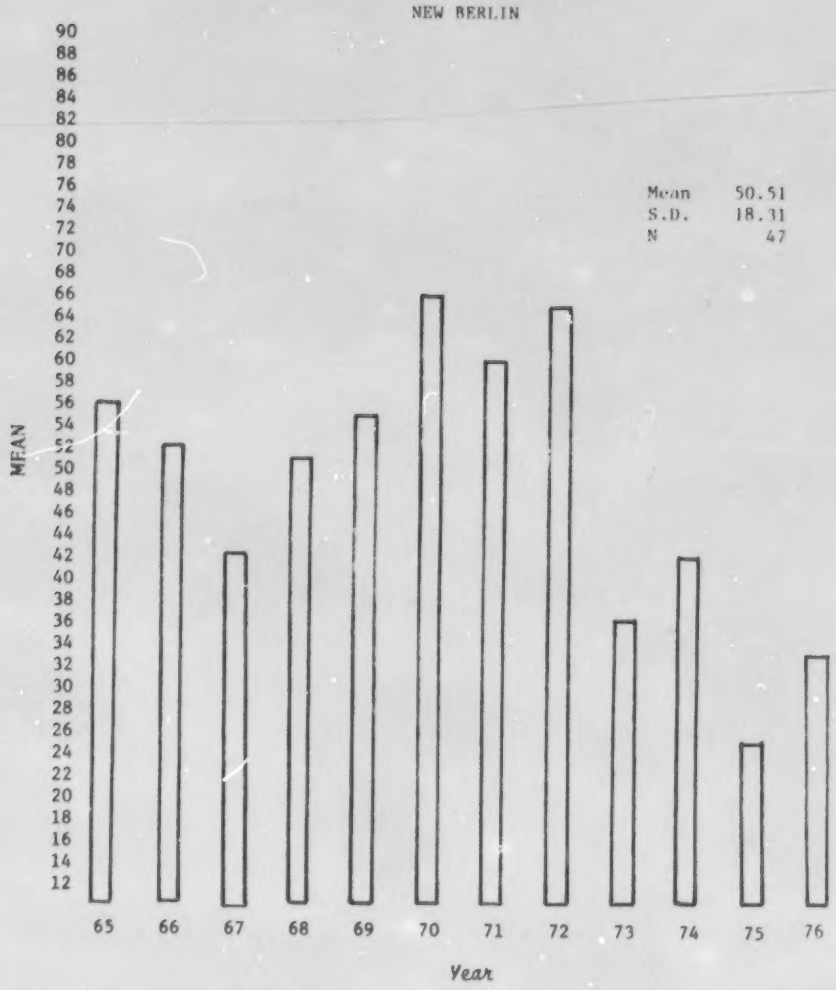
TABLE OF COMPARISONS ON MALES AND FEMALES

GREEN LAKE

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	13	41.15	15.45	9	35.89	12.24	20	.8516	No
WITS-Verbal 11th 1965-1976	11	55.82	17.45	8	50.13	14.88	17	.7452	No
WITS-Quant 9th 1965-1976	13	22.62	6.19	9	17.22	4.47	20	2.2362	Yes
WITS-Quant 11th 1965-1976	12	31.00	7.52	7	25.29	7.43	17	1.6043	No
TERMAN	12	64.00	23.38	7	65.43	17.93	17	.1389	No

WITS-Verbal I-9th Grade
1965-1976*

NEW BERLIN



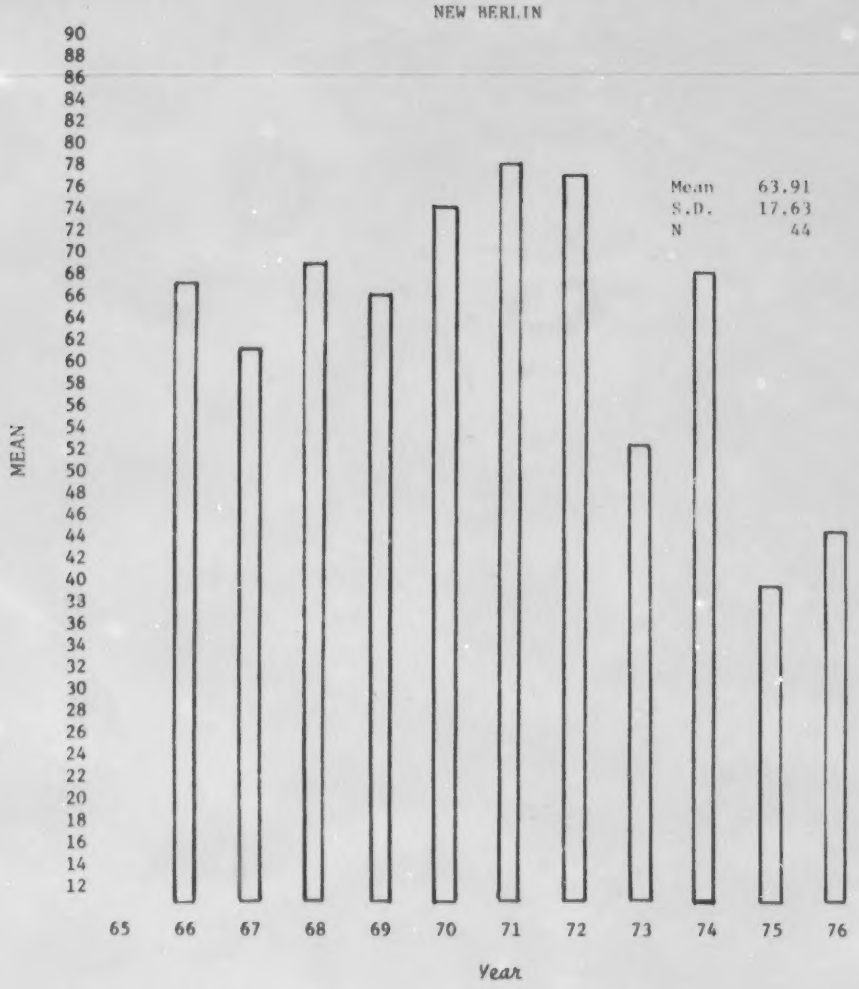
*Means for graph rounded off to nearest whole number

NEW BERLIN Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	5	56.40	1971	4	60.25
1966	5	51.40	1972	5	65.20
1967	4	41.50	1973	4	36.25
1968	4	50.50	1974	3	42.33
1969	3	55.33	1975	3	25.00
1970	5	66.20	1976	2	32.50

WITS-Verbal I-11th Grade
1965-1976*

NEW BERLIN



*Means for graph rounded off to nearest whole number

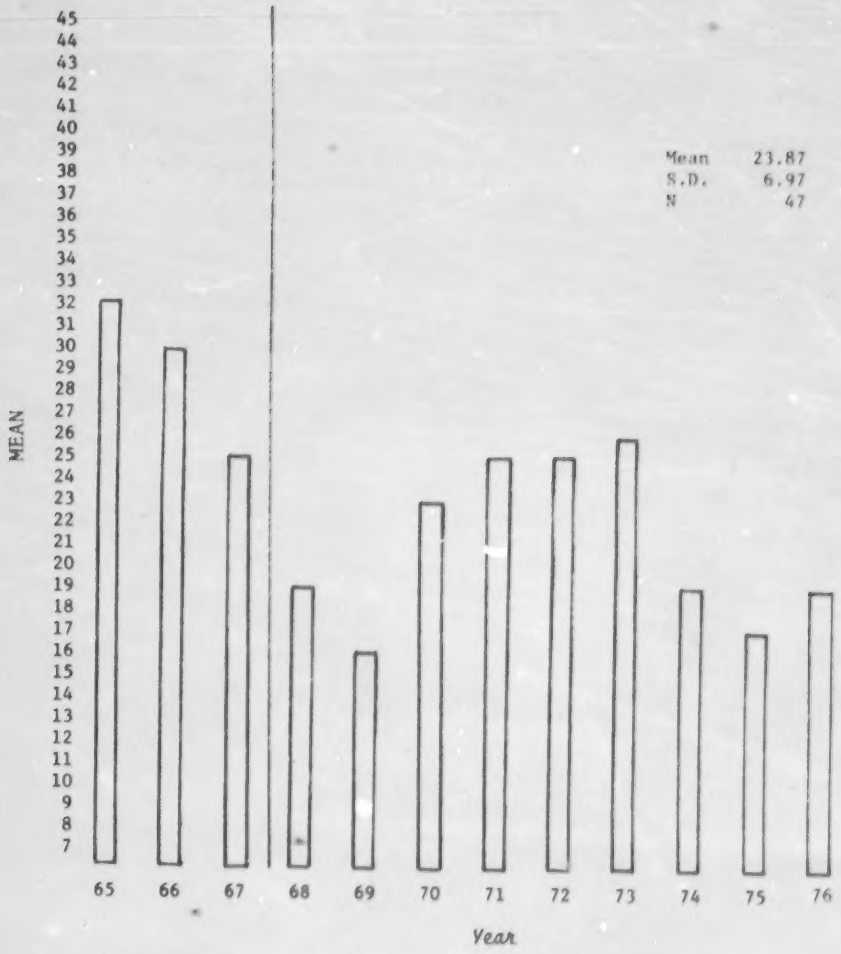
NEW BERLIN Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	4	78.00
1966	5	66.80	1972	5	77.40
1967	4	60.50	1973	4	52.00
1968	4	69.00	1974	3	67.66
1969	4	65.75	1975	3	39.00
1970	4	73.75	1976	4	43.75

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*

NEW BERLIN

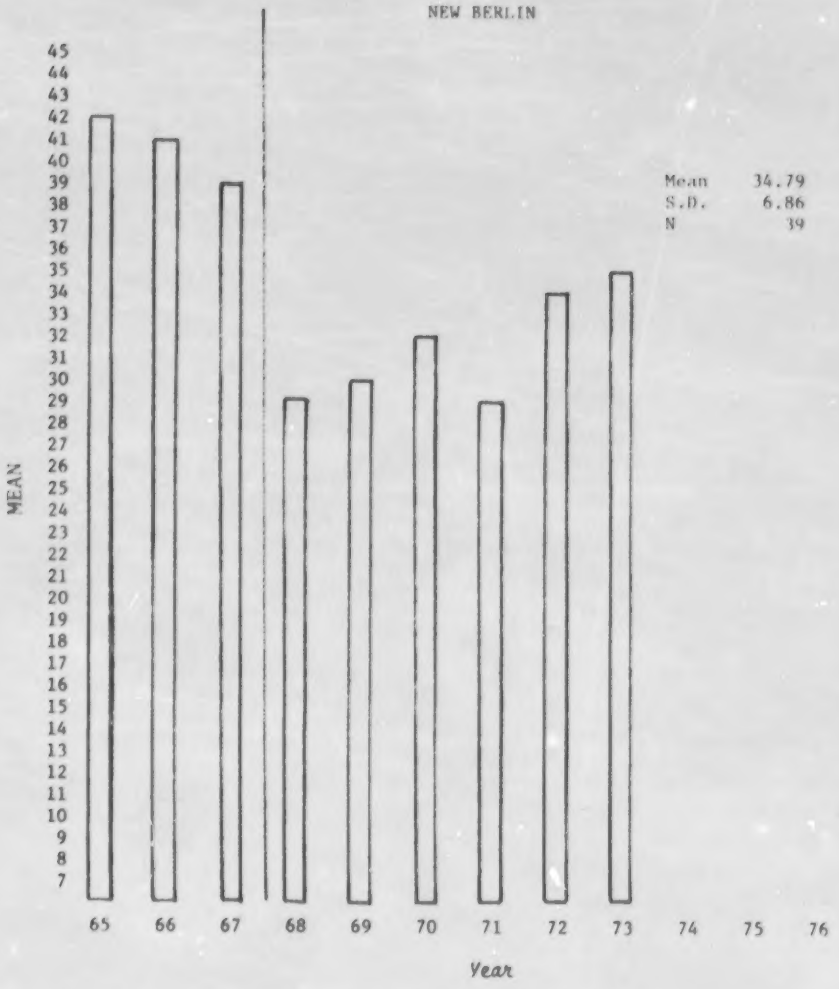


*Means for graph rounded off to nearest whole number

NEW BERLIN Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	5	31.80	1971	4	24.75
1966	5	30.40	1972	5	25.20
1967	4	25.00	1973	4	25.50
1968	4	19.00	1974	3	19.33
1969	3	16.00	1975	3	16.66
1970	5	23.00	1976	2	18.50

WITS-Quantitative II-11th Grade
1965-1974*

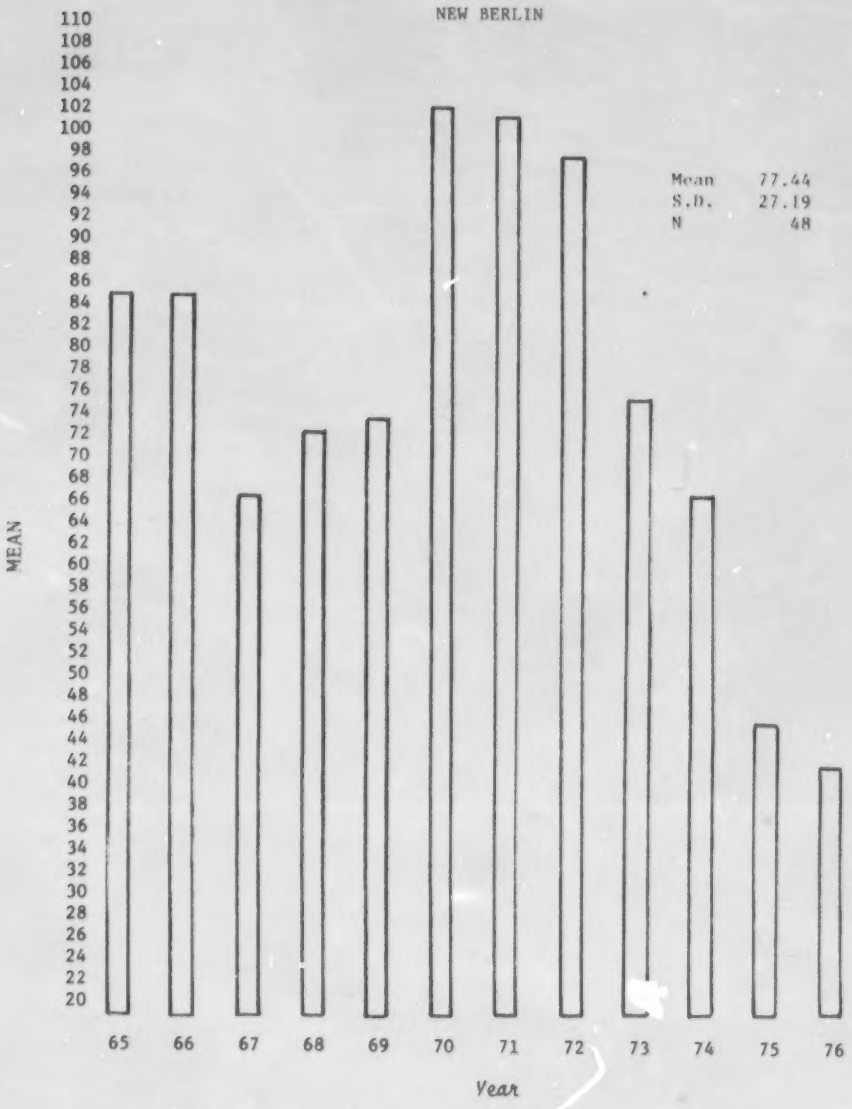


*Means for graph rounded off to nearest whole number

NEW BERLIN Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	5	41.80	1971	4	29.25
1966	5	41.20	1972	5	33.80
1967	4	38.75	1973	4	34.50
1968	4	28.75	1974	New Quantitative	
1969	4	30.00	1975	New Quantitative	
1970	4	32.00	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

NEW BERLIN Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	5	84.60	1971	4	100.75
1966	5	85.40	1972	5	96.60
1967	4	66.25	1973	3	74.66
1968	4	71.50	1974	3	65.66
1969	4	73.25	1975	3	45.33
1970	4	101.75	1976	4	40.75

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: NEW BERLIN

TEST	N	School Mean	School S.D.
New Quantitative-9th	9	15.89	3.72
New Quantitative-11th	15	26.40	4.67

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

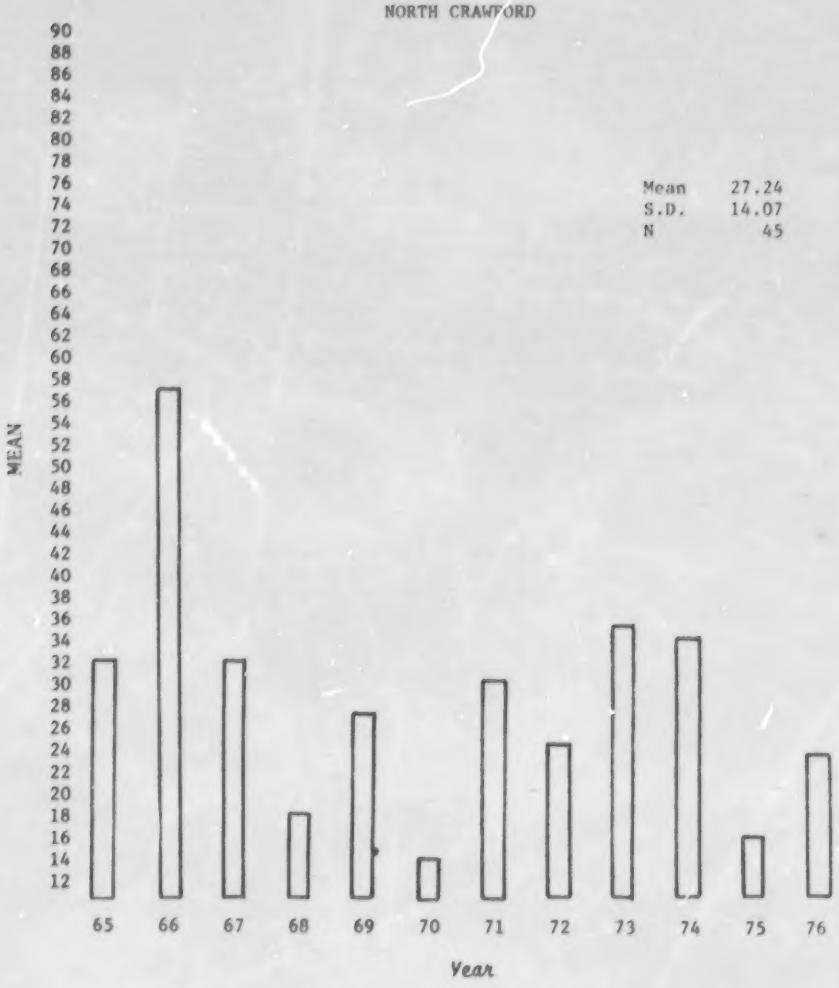
TABLE OF COMPARISONS ON MALES AND FEMALES

NEW BERLIN

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	23	51.39	19.25	24	49.67	17.74	45	.3196	No
WITS-Verbal 11th 1965-1976	23	64.96	19.66	21	62.76	15.50	42	.4084	No
WITS-Quant 9th 1965-1976	23	26.30	7.36	24	21.54	5.82	45	2.4663	Yes
WITS-Quant 11th 1965-1976	21	35.38	7.19	18	34.11	6.60	37	.5711	No
TERMAN	25	81.80	29.90	23	72.70	23.64	46	1.1634	No

WITS-Verbal I-9th Grade
1965-1976*

NORTH CRAWFORD



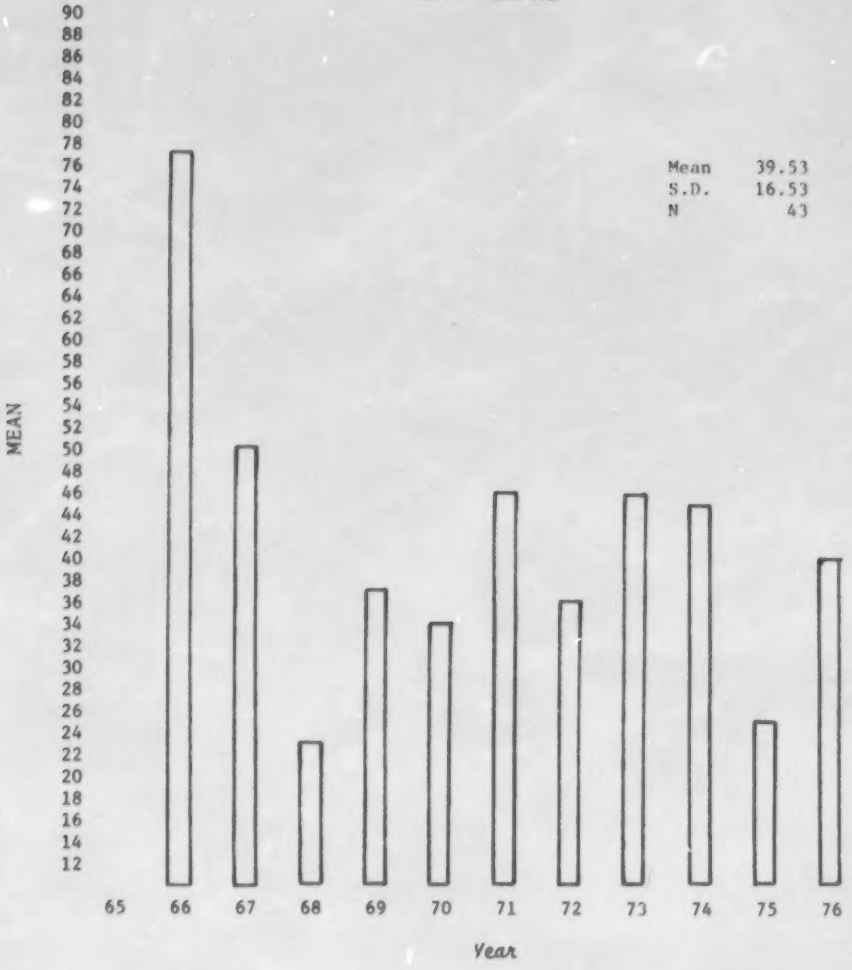
*Means for graph rounded off to nearest whole number

NORTH CRAWFORD Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	32.33	1971	4	30.25
1966	2	57.00	1972	6	24.00
1967	2	31.50	1973	4	34.50
1968	1	18.00	1974	5	34.50
1969	5	26.60	1975	5	15.80
1970	4	14.25	1976	4	22.50

WITS-Verbal I-11th Grade
1965-1976*

NORTH CRAWFORD



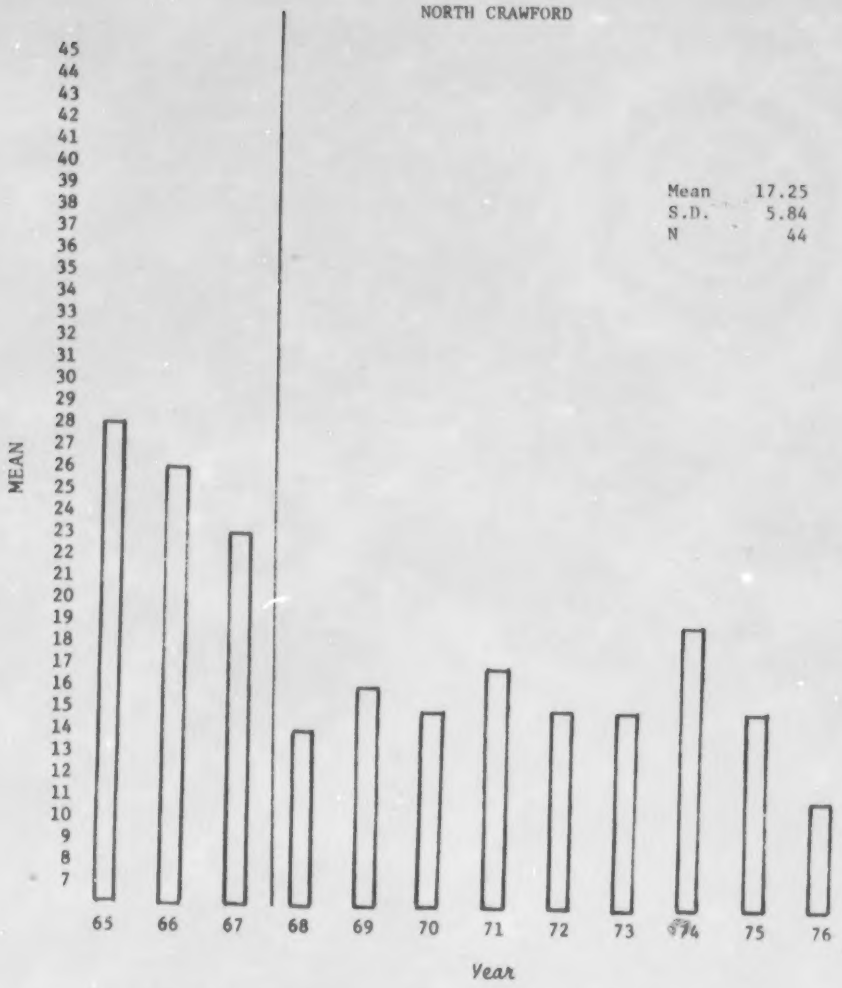
*Means for graph rounded off to nearest whole number

NORTH CRAWFORD Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	4	45.75
1966	2	77.25	1972	6	35.83
1967	3	49.66	1973	4	45.75
1968	1	23.00	1974	5	44.60
1969	5	37.00	1975	5	24.60
1970	4	33.50	1976	4	39.75

*Not Given

WITS-Quantitative II-9th Grade
1965-1976*



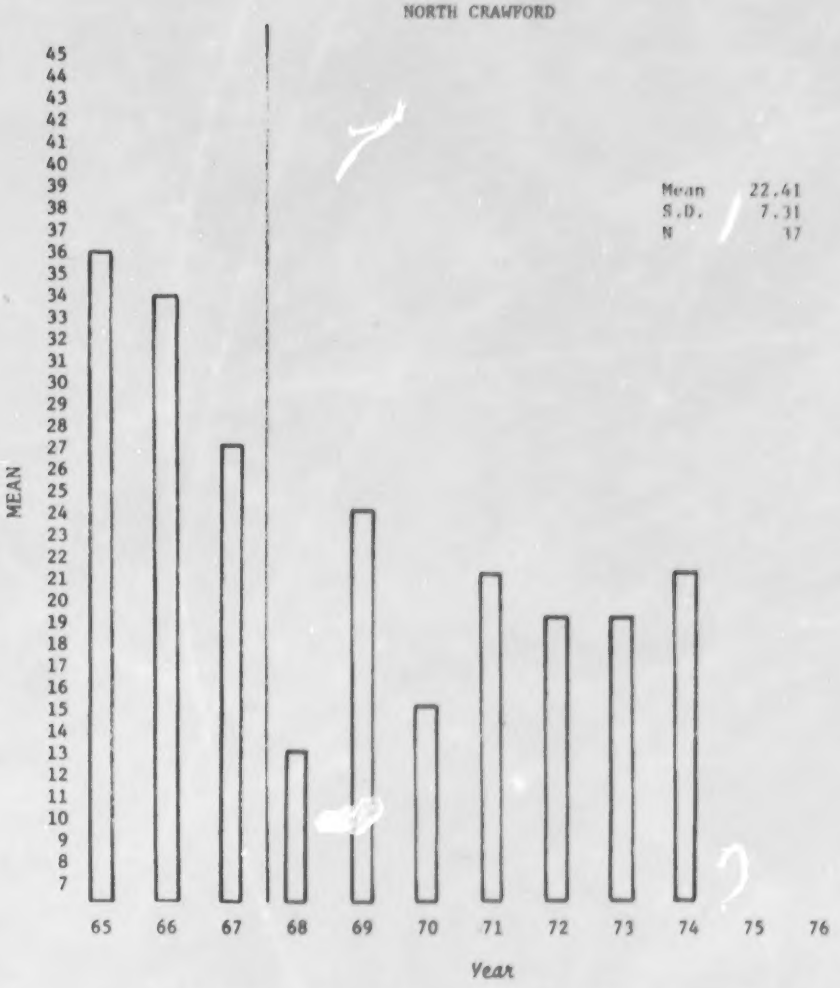
*Means for graph rounded off to nearest whole number

NORTH CRAWFORD Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	28.33	1971	4	17.00
1966	2	26.00	1972	6	15.00
1967	2	23.00	1973	4	14.50
1968	1	14.00	1974	5	18.60
1969	5	16.40	1975	5	15.20
1970	4	15.25	1976	3	11.33

WITS-Quantitative II-11th Grade
1965-1974*

NORTH CRAWFORD

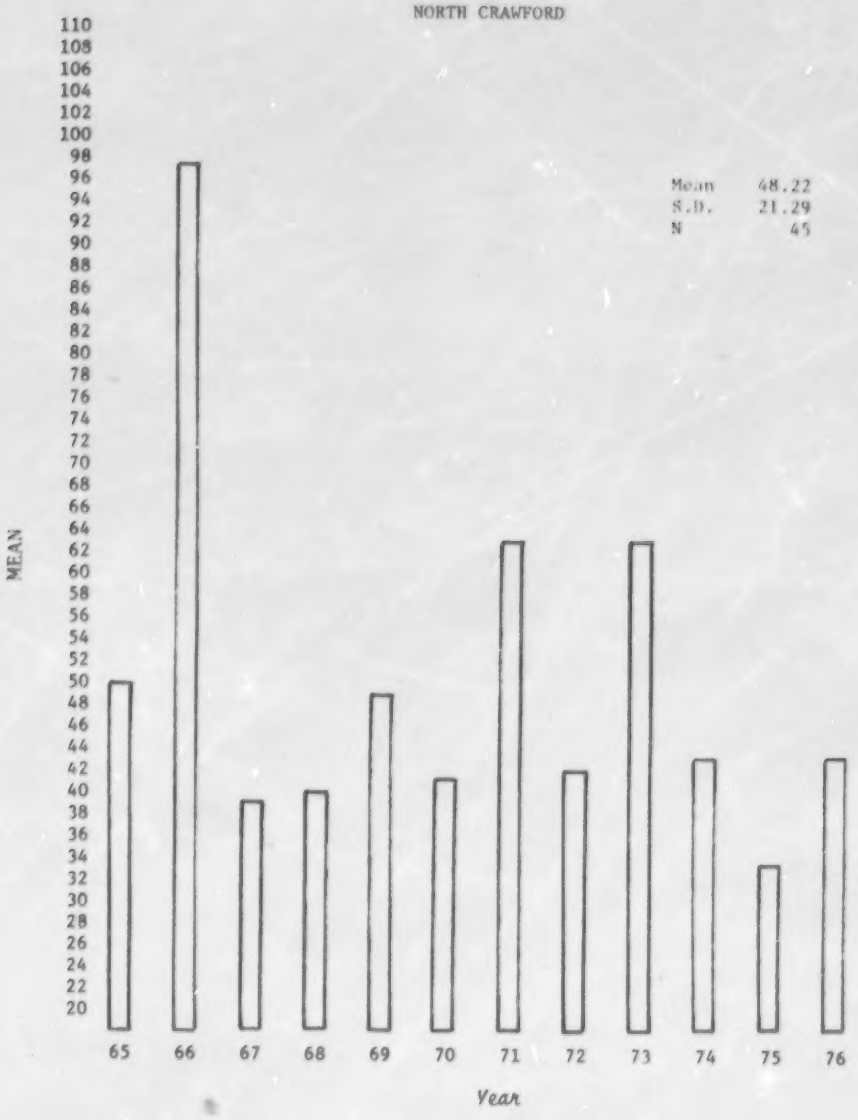


*Means for graph rounded off to nearest whole number

NORTH CRAWFORD Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	3	36.33	1971	4	20.50
1966	2	33.50	1972	6	19.00
1967	3	26.66	1973	4	18.75
1968	1	13.00	1974	5	21.40
1969	5	24.20	1975	New Quantitative	
1970	4	15.25	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

NORTH CRAWFORD Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	3	49.66	1971	4	63.00
1966	2	96.50	1972	6	41.83
1967	3	39.33	1973	4	63.25
1968	1	40.00	1974	5	43.40
1969	5	48.80	1975	5	32.60
1970	4	40.50	1976	3	42.66

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: NORTH CRAWFORD

TEST	N	School Mean	School S.D.
New Quantitative-9th	15	11.33	4.03
New Quantitative-11th	11	15.09	4.93

Total Lab Data for New Quantitative

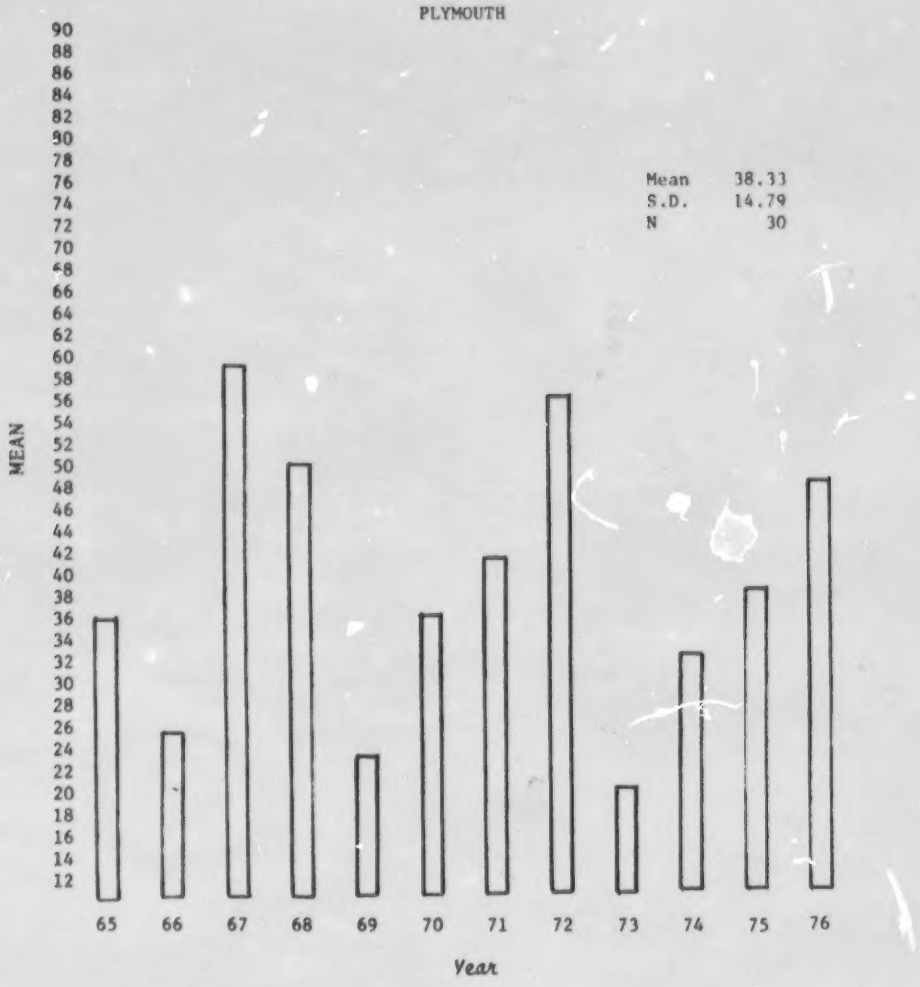
TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

TABLE OF COMPARISONS ON MALES AND FEMALES

NORTH CRAWFORD

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	17	27.47	16.23	28	27.11	12.90	43	.0830	No
WITS-Verbal 11th 1965-1976	17	40.00	18.74	26	39.23	15.29	41	.1474	No
WITS-Quant 9th 1965-1976	17	17.94	6.69	27	16.81	5.33	42	.6180	No
WITS-Quant 11th 1965-1976	15	23.00	5.73	22	22.00	8.32	35	.4038	No
TERMAN	17	51.29	19.91	28	46.36	22.23	43	.7504	No

WITS-Verbal I-9th Grade
1965-1976*



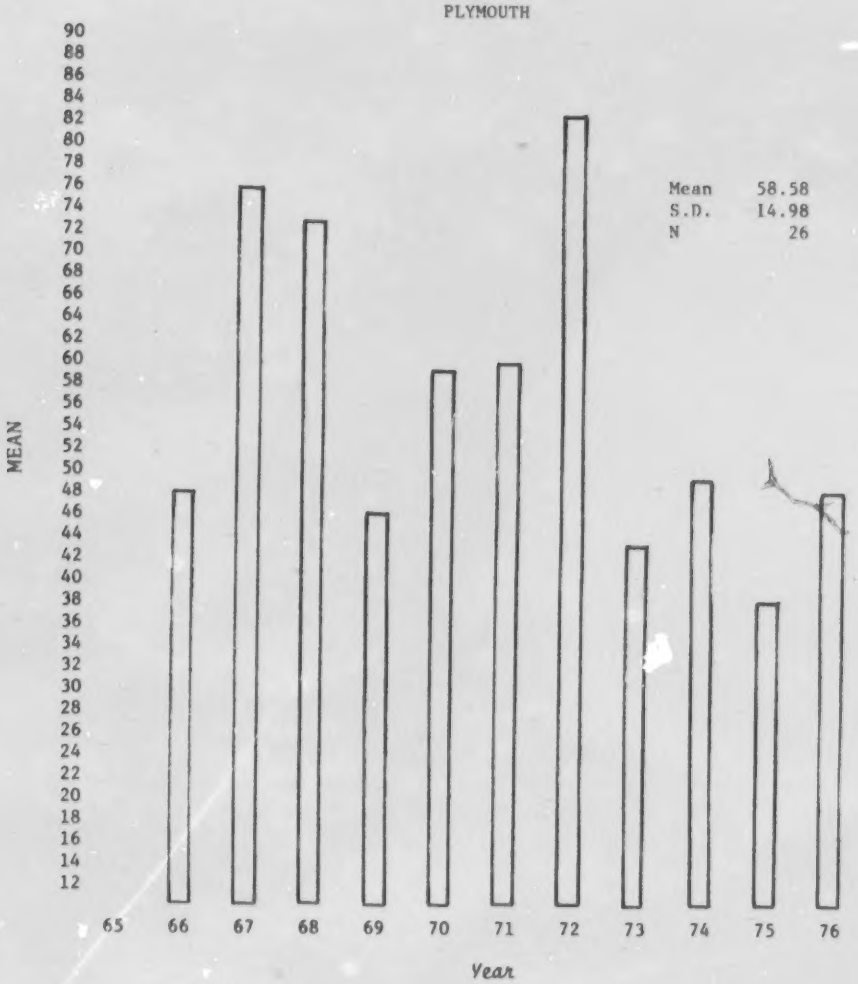
*Means for graph rounded off to nearest whole number

PLYMOUTH Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	36.00	1971	3	41.33
1966	3	25.33	1972	1	56.00
1967	3	59.33	1973	2	19.50
1968	3	50.00	1974	3	32.00
1969	2	22.50	1975	2	37.50
1970	3	35.66	1976	2	48.00

WITS-Verbal I-11th Grade
1965-1976*

PLYMOUTH



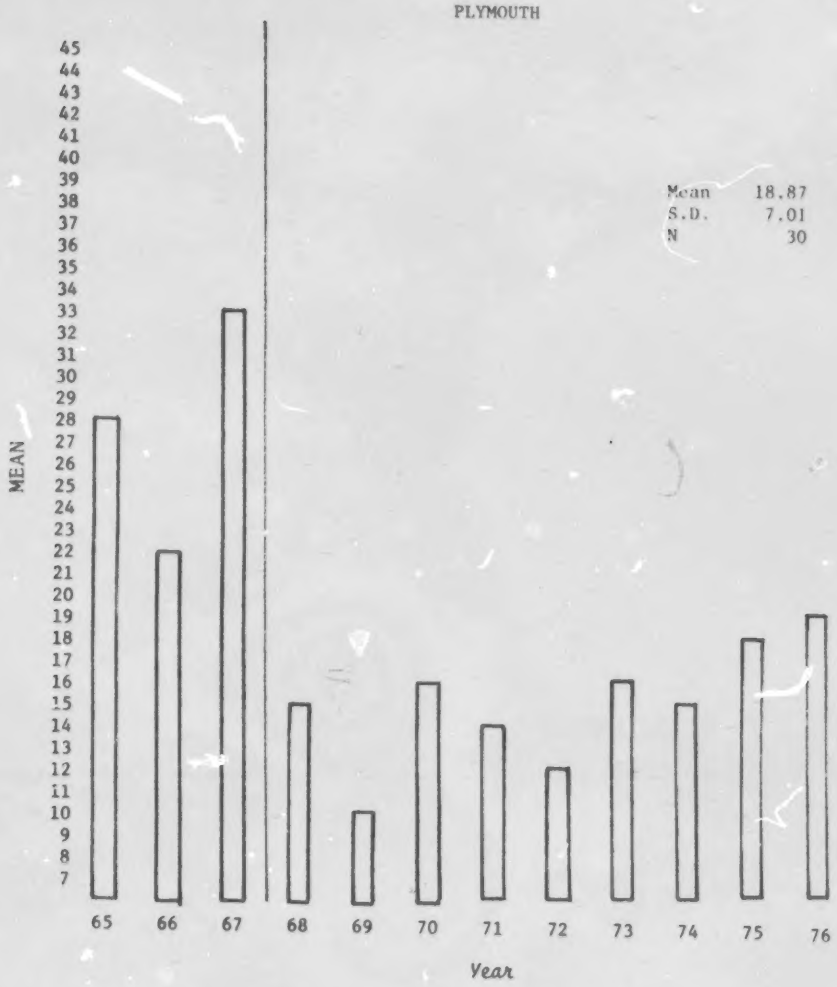
*Means for graph rounded off to nearest whole number

PLYMOUTH Summary Table: WITS-Verbal 1 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	3	60.00
1966	3	48.33	1972	1	82.00
1967	3	75.66	1973	2	42.50
1968	3	73.00	1974	3	49.33
1969	2	45.50	1975	1	51.00
1970	3	58.66	1976	2	59.50

WITS-Quantitative II-9th Grade
1965-1976*

PLYMOUTH

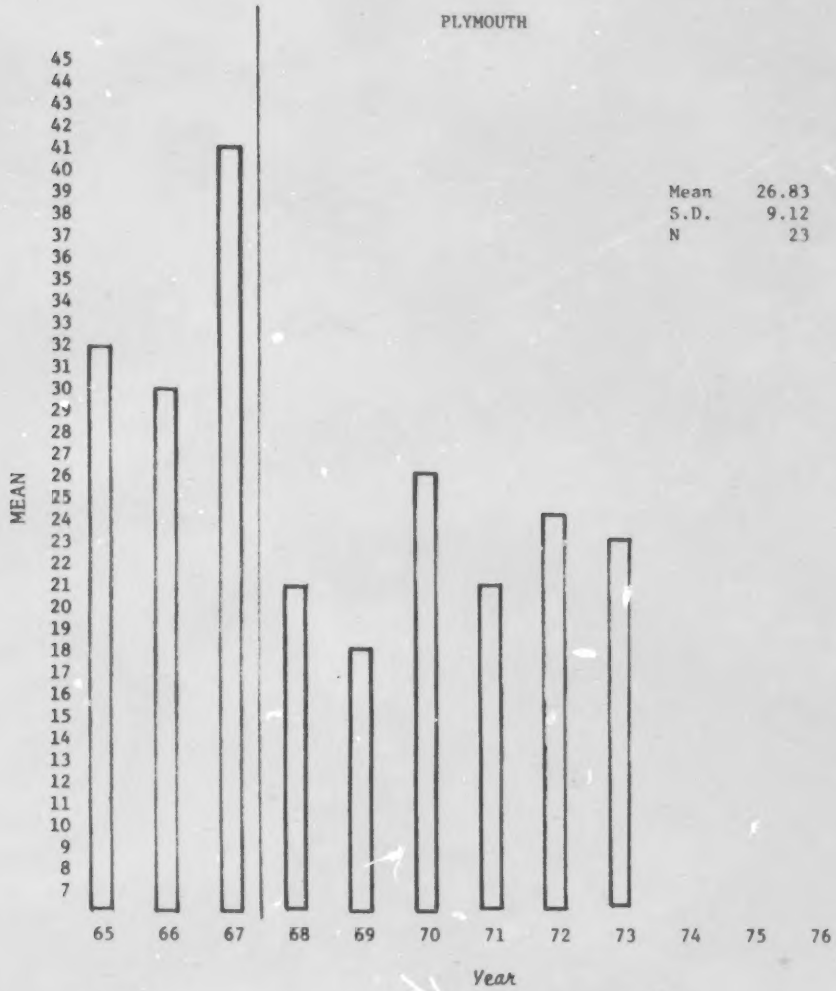


*Means for graph rounded off to nearest whole number

PLYMOUTH Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	3	27.66	1971	3	14.00
1966	3	22.33	1972	1	12.00
1967	3	32.56	1973	2	16.00
1968	3	15.33	1974	3	14.66
1969	2	10.00	1975	2	18.00
1970	3	16.00	1976	2	19.00

WITS-Quantitative II-11th Grade
1965-1974*

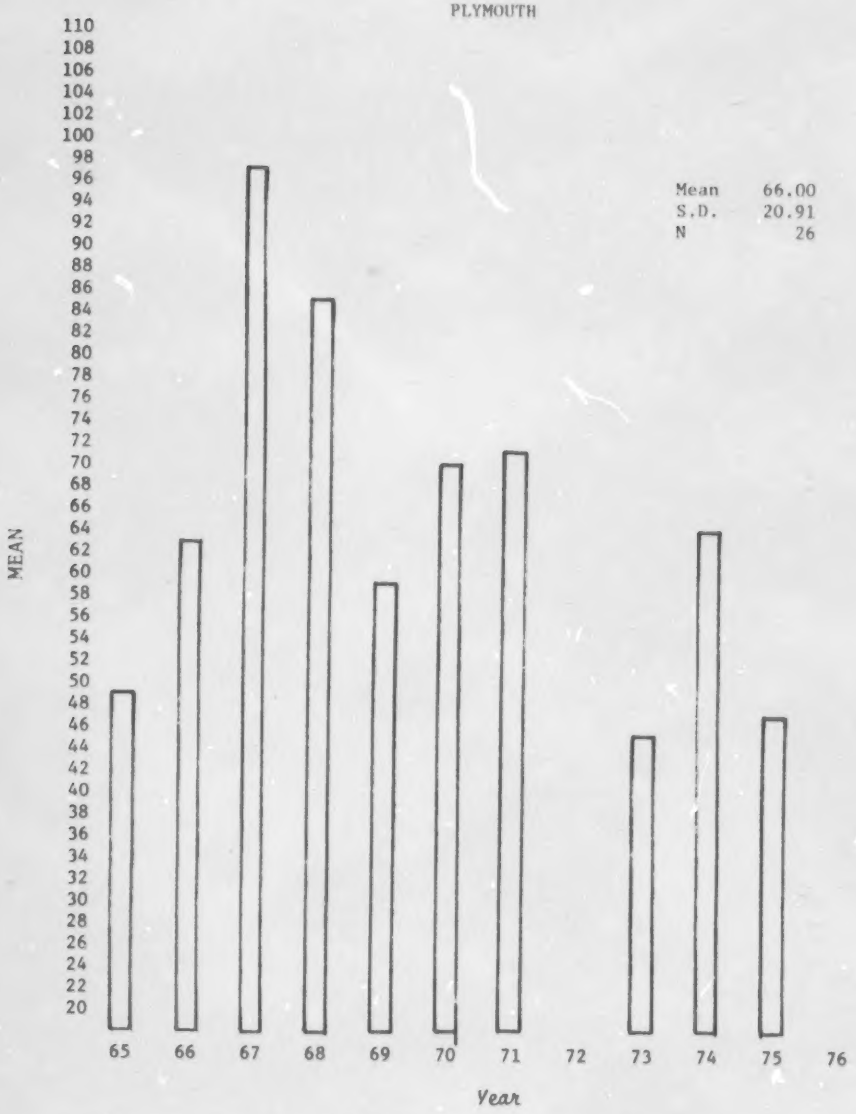


*Means for graph rounded off to nearest whole number

PLYMOUTH Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	3	31.66	1971	3	20.66
1966	3	30.33	1972	1	24.00
1967	3	40.66	1973	2	22.50
1968	3	21.00	1974	New Quantitative	
1969	2	18.00	1975	New Quantitative	
1970	3	26.33	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*



*Means for graph rounded off to nearest whole number

PLYMOUTH Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	3	49.00	1971	3	71.00
1966	2	62.50	1972	No Scores	
1967	3	96.66	1973	2	44.50
1968	3	85.00	1974	2	64.00
1969	2	59.00	1975	3	46.66
1970	3	70.33	1976	No Scores	

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: PLYMOUTH

TEST	N	School Mean	School S.D.
New Quantitative-9th	3	12.00	2.65
New Quantitative-11th	6	24.33	4.63

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

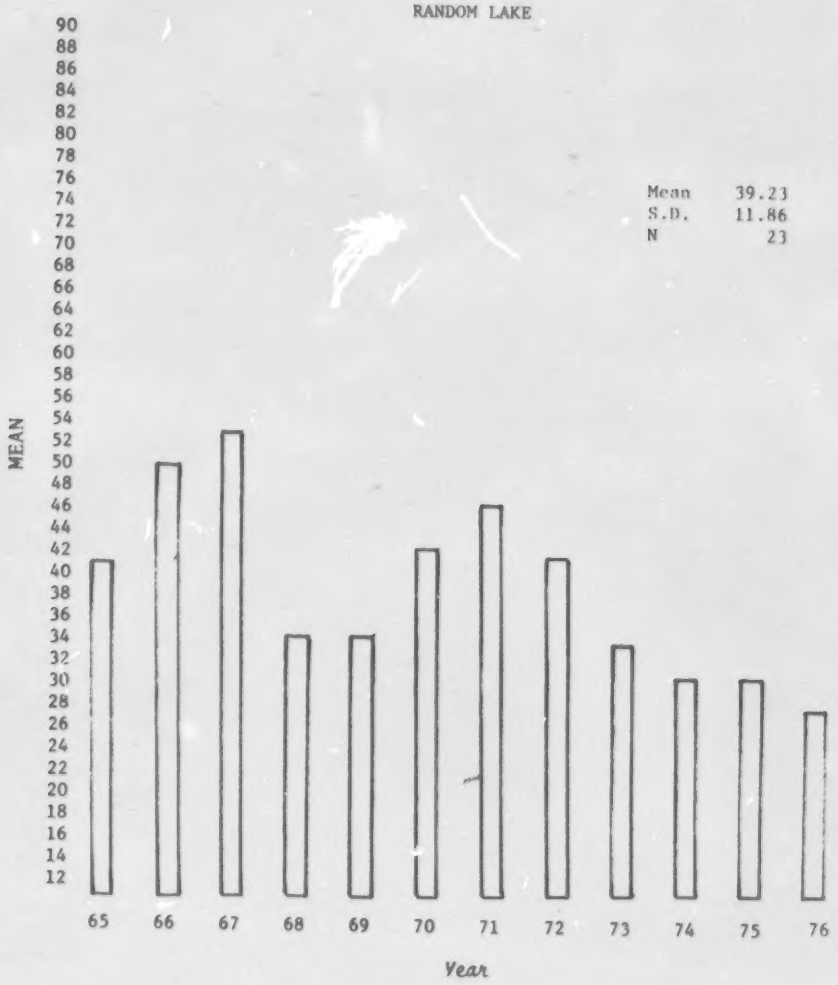
TABLE OF COMPARISONS ON MALES AND FEMALES

PLYMOUTH

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	13	38.23	17.23	17	38.41	13.19	28	.0326	No
WITS-Verbal 11th 1965-1976	9	57.22	13.65	17	59.29	15.99	24	.3293	No
WITS-Quant 9th 1965-1976	13	21.46	7.47	17	16.88	6.13	28	1.8447	Yes
WITS-Quant 11th 1965-1976	9	31.78	9.12	14	23.64	7.85	21	2.2782	Yes
TERMAN	12	60.17	16.22	14	71.00	23.66	24	1.3377	No

WITS-Verbal I-9th Grade
1965-1976*

RANDOM LAKE



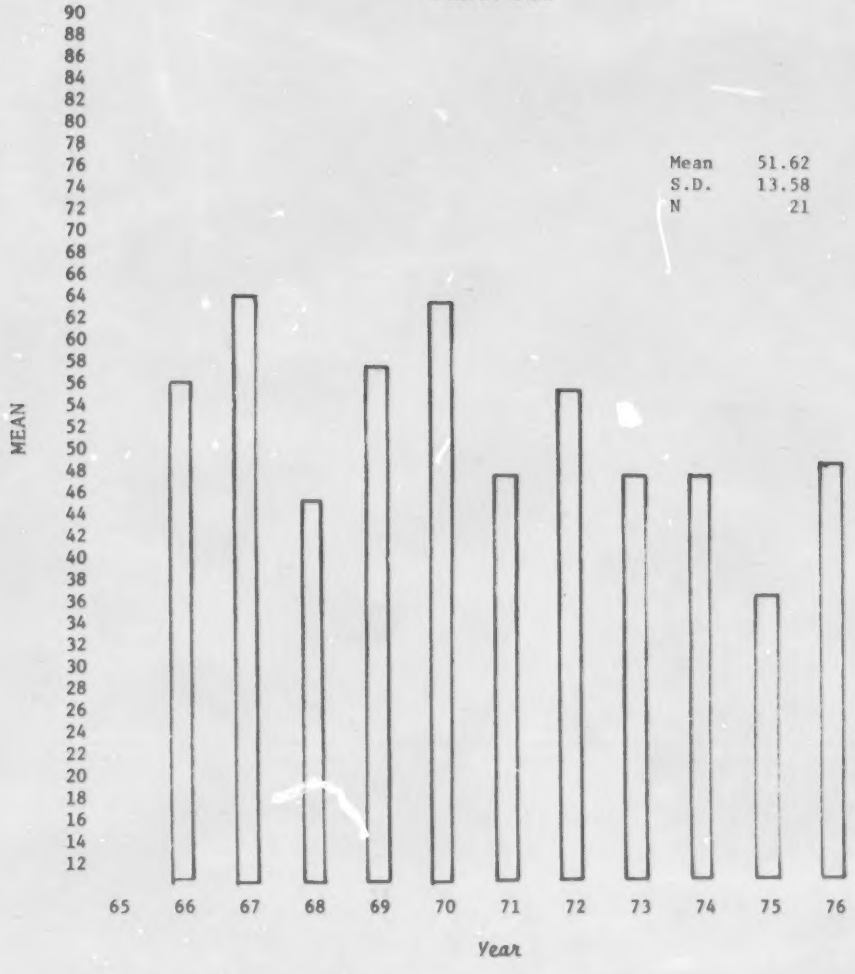
*Means for graph rounded off to nearest whole number

RANDOM LAKE Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	41.00	1971	2	46.00
1966	2	49.50	1972	2	40.50
1967	2	53.00	1973	2	32.50
1968	2	34.00	1974	2	29.50
1969	2	33.50	1975	2	30.00
1970	2	42.00	1976	1	27.00

WITS-Verbal I-11th Grade
1965-1976*

RANDOM LAKE

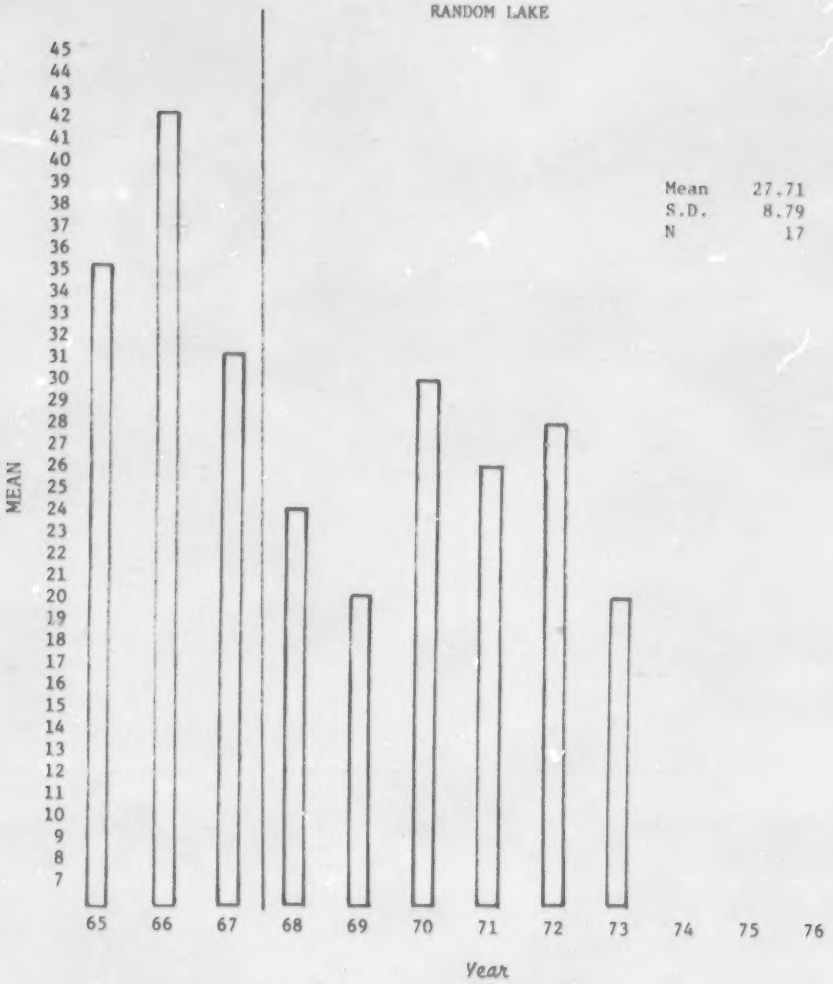


*Means for graph rounded off to nearest whole number

RANDOM LAKE Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	2	47.00
1966	2	56.00	1972	2	54.50
1967	2	64.00	1973	2	46.50
1968	2	44.50	1974	2	47.00
1969	2	56.50	1975	2	35.50
1970	2	63.00	1976	1	48.00

WITS-Quantitative II-11th Grade
1965-1974*

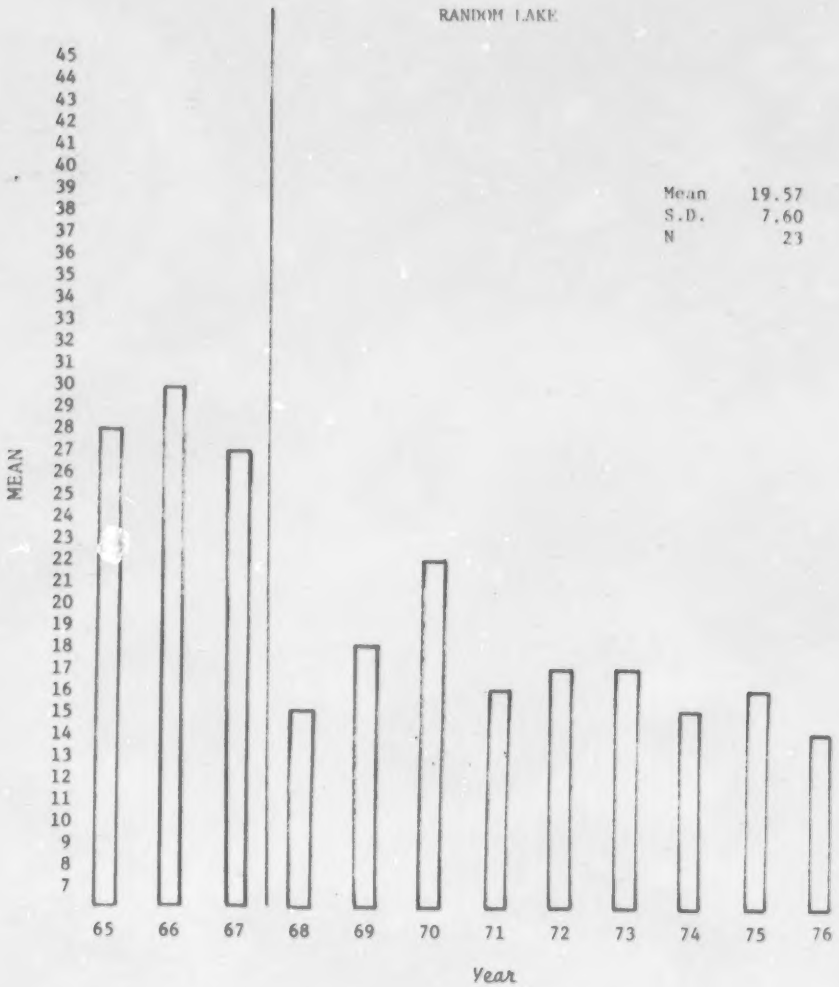


*Means for graph rounded off to nearest whole number

RANDOM LAKE Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	1	35.00	1971	2	26.00
1966	2	41.50	1972	2	27.50
1967	2	30.50	1973	2	19.50
1968	2	24.00	1974	New Quantitative	
1969	2	19.50	1975	New Quantitative	
1970	2	29.50	1976	New Quantitative	

WITS-Quantitative II-9th Grade
1965-1976*



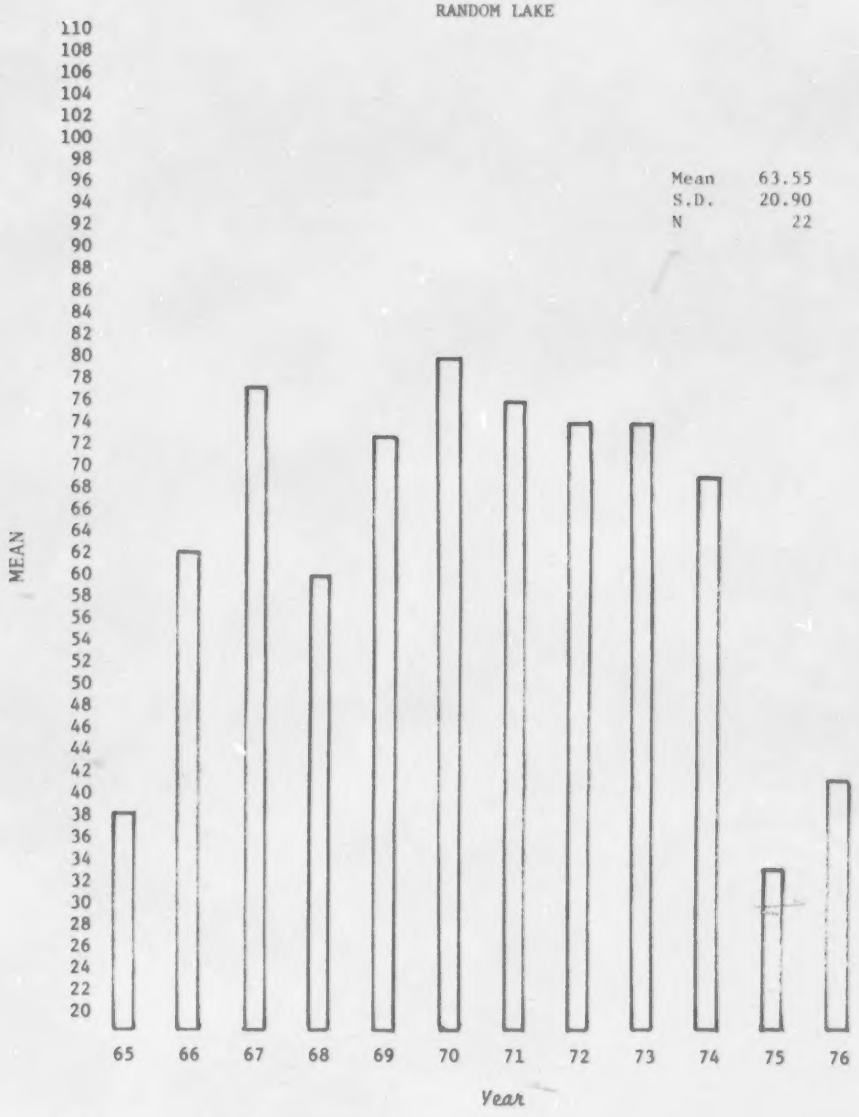
*Means for graph rounded off to nearest whole number

RANDOM LAKE Summary Table: WITS-Quantitative II 9th Grade

Ye .	N	Mean	Year	N	Mean
1965	2	27.50	1971	2	16.00
1966	2	29.50	1972	2	17.00
1967	2	27.00	1973	2	17.00
1968	2	14.50	1974	2	14.50
1969	2	17.50	1975	2	15.50
1970	2	22.00	1976	1	14.00

Terman Concept Mastery Test--1965-1976*

RANDOM LAKE



*Means for graph rounded off to nearest whole number

RANDOM LAKE Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	2	38.00	1971	2	76.00
1966	2	62.00	1972	2	74.00
1967	2	77.00	1973	1	74.00
1968	2	60.00	1974	2	69.00
1969	2	73.00	1975	2	33.00
1970	2	79.50	1976	1	41.00

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: RANDOM LAKE

TEST	N	School Mean	School S.D.
New Quantitative-9th	6	16.00	7.04
New Quantitative-11th	7	19.86	3.53

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

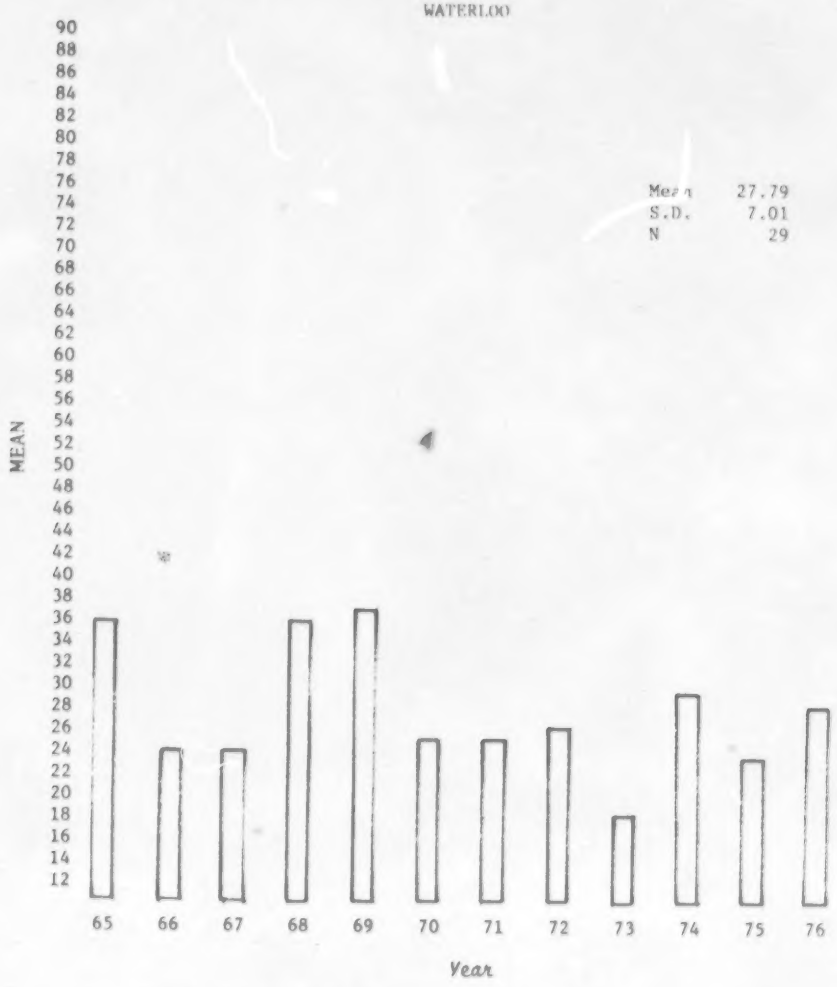
TABLE OF COMPARISONS ON MALES AND FEMALES

RANDOM LAKE

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	11	45.82	12.21	11	32.64	7.10	20	3.0943	Yes
WITS-Verbal 11th 1965-1976	10	59.30	13.15	11	44.64	10.14	19	2.8886	Yes
WITS-Quant 9th 1965-1976	11	21.45	9.82	12	17.83	4.57	21	1.1503	No
WITS-Quant 11th 1965-1976	8	31.38	9.64	9	24.44	6.89	15	1.7211	No
TERMAN	11	63.27	21.72	11	63.82	21.10	20	.0597	No

WITS-Verbal I-9th Grade
1965-1976*

WATERLOO



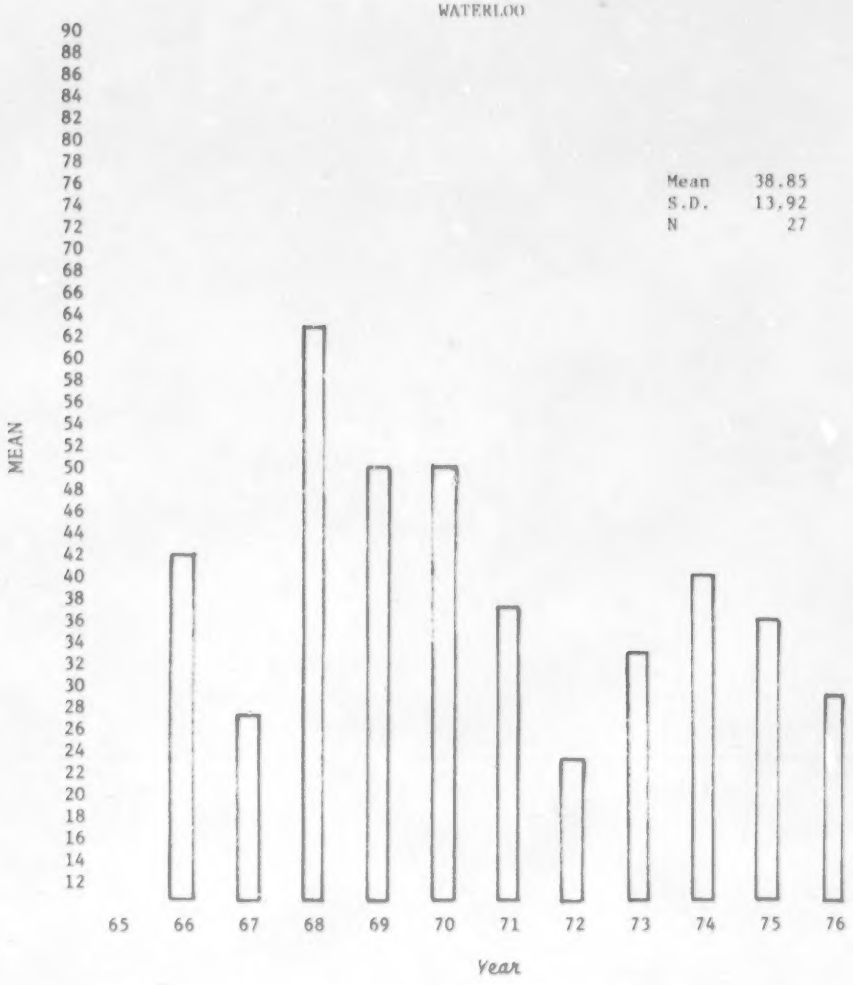
*Means for graph rounded off to nearest whole number

WATERLOO Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	35.50	1971	2	25.00
1966	2	24.00	1972	3	26.33
1967	1	24.00	1973	1	18.00
1968	2	35.50	1974	4	29.00
1969	2	37.00	1975	3	23.00
1970	3	25.00	1976	4	27.75

WITS-Verbal I-11th Grade
1965-1976*

WATERLOO



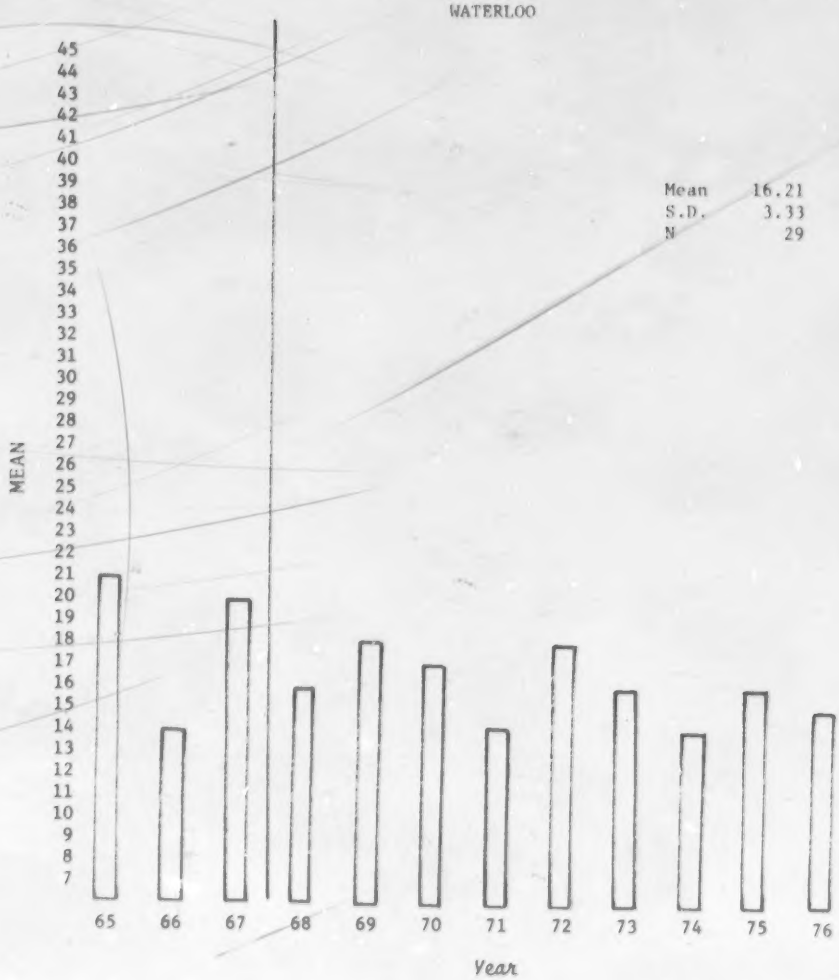
*Means for graph rounded off to nearest whole number

WATERLOO Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	*	*	1971	2	36.50
1966	2	41.50	1972	3	22.66
1967	1	27.00	1973	1	33.00
1968	2	63.00	1974	4	39.50
1969	2	49.50	1975	4	36.50
1970	3	49.66	1976	3	29.00

WITS-Quantitative II-9th Grade
1965-1976*

WATERLOO



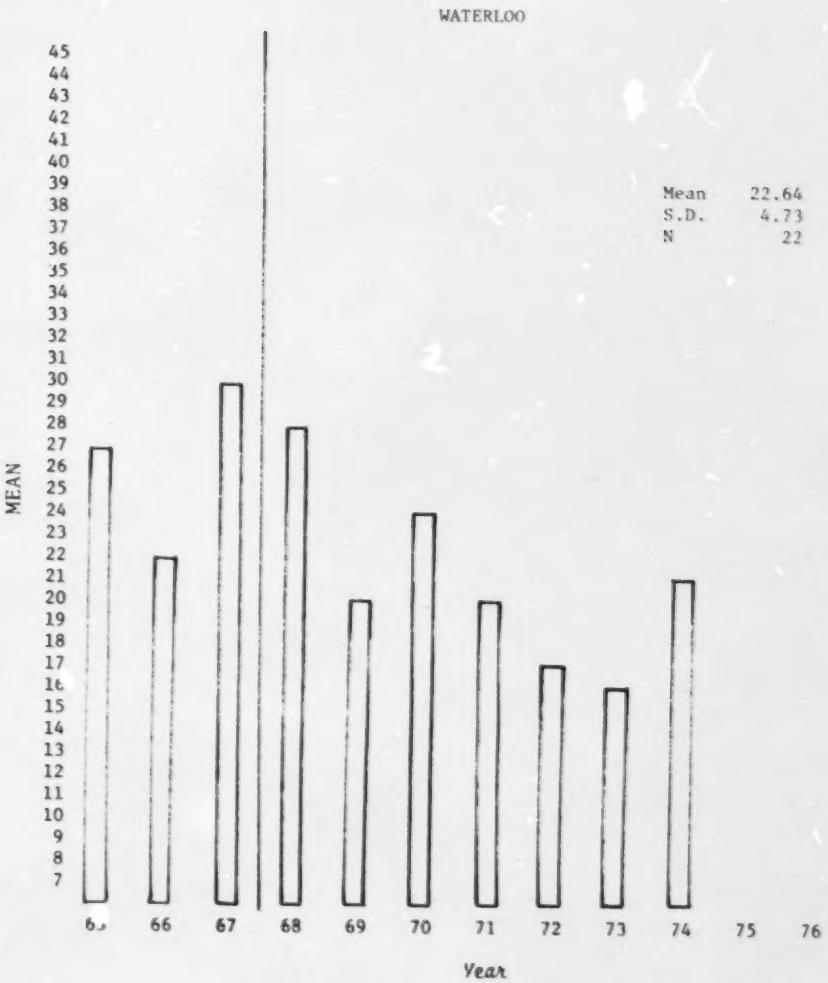
*Means for graph rounded off to nearest whole number

WATERLOO Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	2	20.50	1971	2	13.50
1966	2	14.00	1972	3	17.66
1967	1	20.00	1973	1	16.00
1968	2	16.00	1974	4	14.25
1969	2	17.50	1975	3	16.00
1970	3	17.33	1976	4	15.25

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963 A

WITS-Quantitative II-11th Grade
1965-1974*



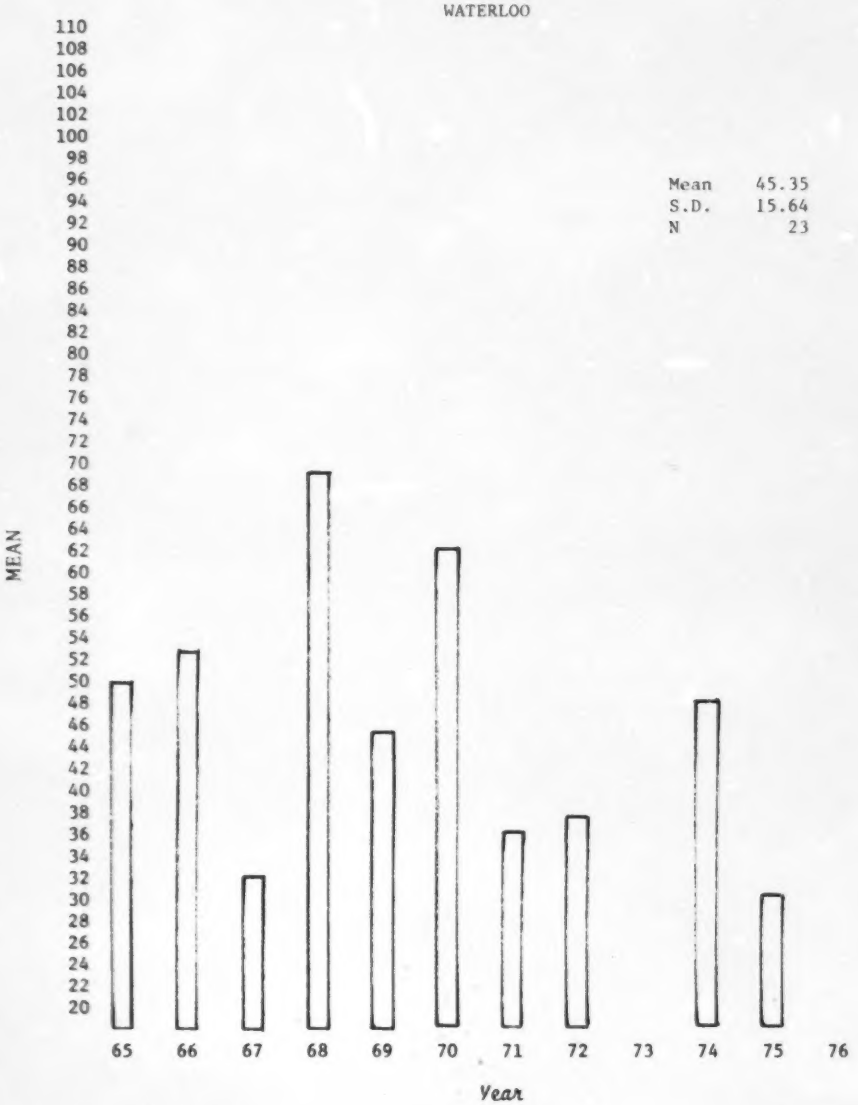
*Means for graph rounded off to nearest whole number

WATERLOO Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	2	27.00	1971	2	20.00
1966	2	22.00	1972	3	17.33
1967	1	30.00	1973	1	16.00
1968	2	27.50	1974	4	21.00
1969	2	20.00	1975	New Quantitative	
1970	3	24.33	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*

WATERLOO



*Means for graph rounded off to nearest whole number

WATERLOO Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	2	49.50	1971	2	35.50
1966	2	53.00	1972	3	36.60
1967	1	32.00	1973	No Scores	
1968	2	69.00	1974	3	48.00
1969	1	45.00	1975	4	30.33
1970	3	61.66	1976	No Scores	

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: WATERLOO

TEST	N	School Mean	School S.D.
New Quantitative-9th	11	12.00	3.84
New Quantitative-11th	9	17.56	4.45

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

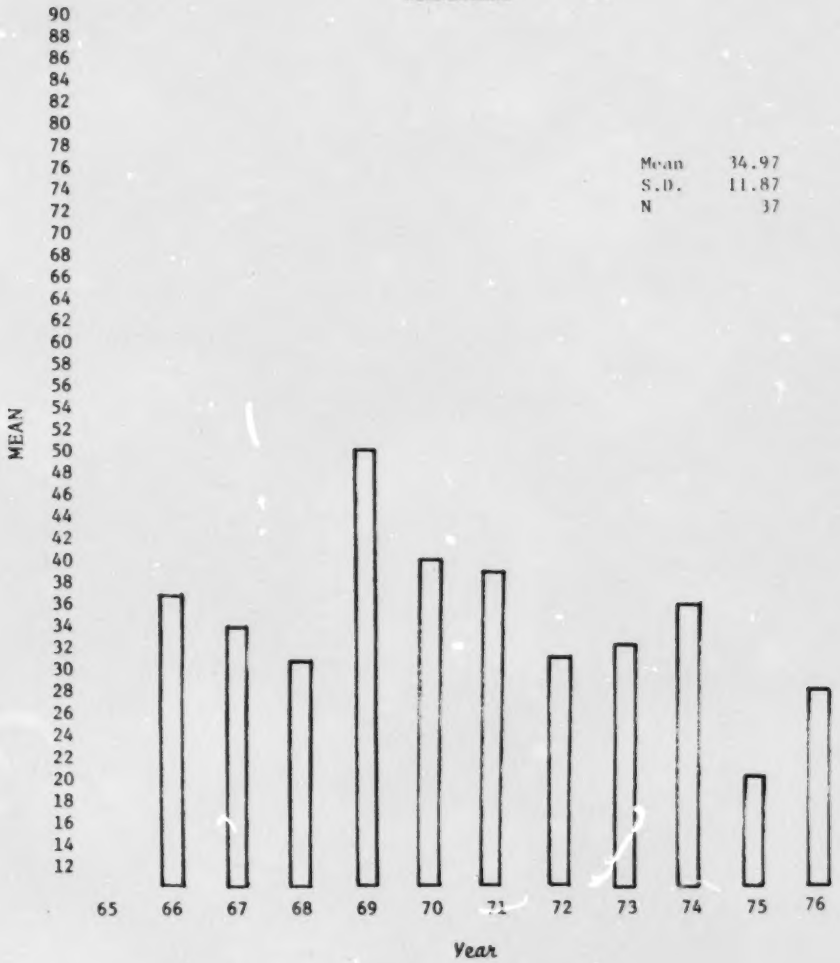
TABLE OF COMPARISONS ON MALES AND FEMALES

WATERLOO

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	11	28.27	7.24	18	27.50	7.06	27	.2833	No
WITS-Verbal 11th 1965-1976	10	38.50	12.92	17	39.06	14.86	25	.0988	No
WITS-Quant 9th 1965-1976	11	17.45	3.36	18	15.44	3.17	27	1.6218	No
WITS-Quant 11th 1965-1976	9	24.11	5.35	13	21.62	4.15	20	1.2327	No
TERMAN	10	46.70	15.09	13	44.31	16.58	21	.3564	No

WITS-Verbal I-9th Grade
1965-1976*

WINNECONNE



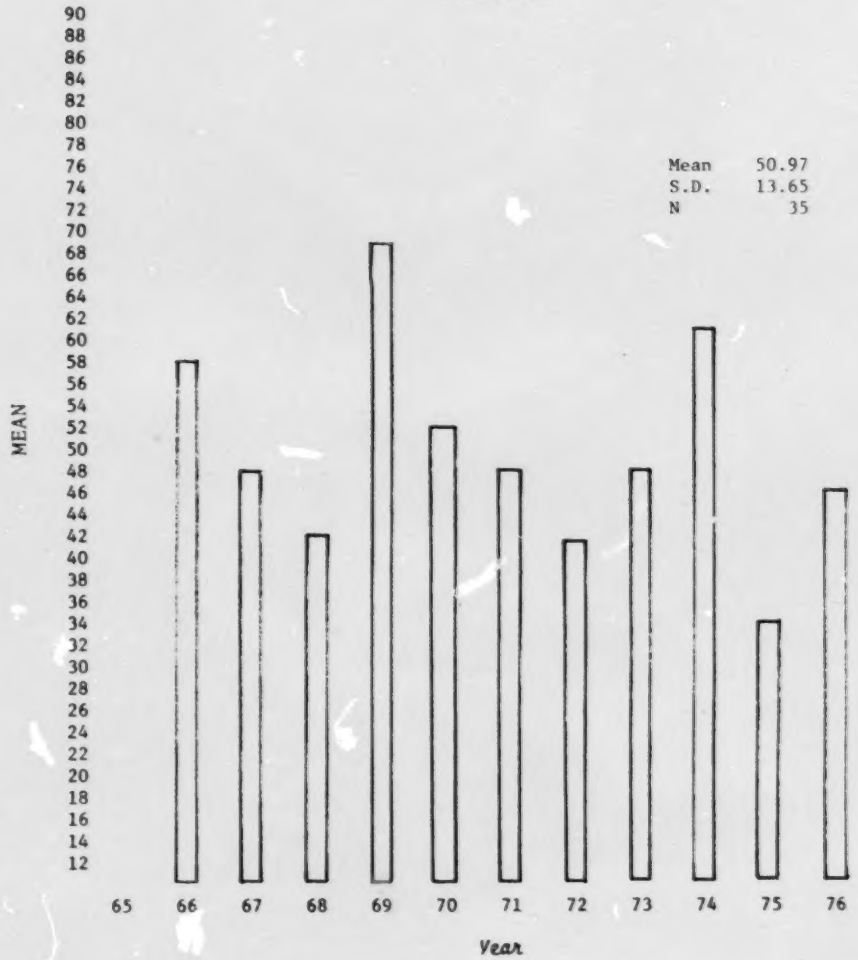
*Means for graph rounded off to nearest whole number

WINNECONNE Summary Table: WITS-Verbal I 9th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	2	38.50
1966	3	37.00	1972	3	30.66
1967	3	33.66	1973	4	31.50
1968	3	31.00	1974	5	36.40
1969	4	50.25	1975	3	20.33
1970	4	39.75	1976	3	28.33

WITS-Verbal I-11th Grade
1965-1976*

WINNECONNE



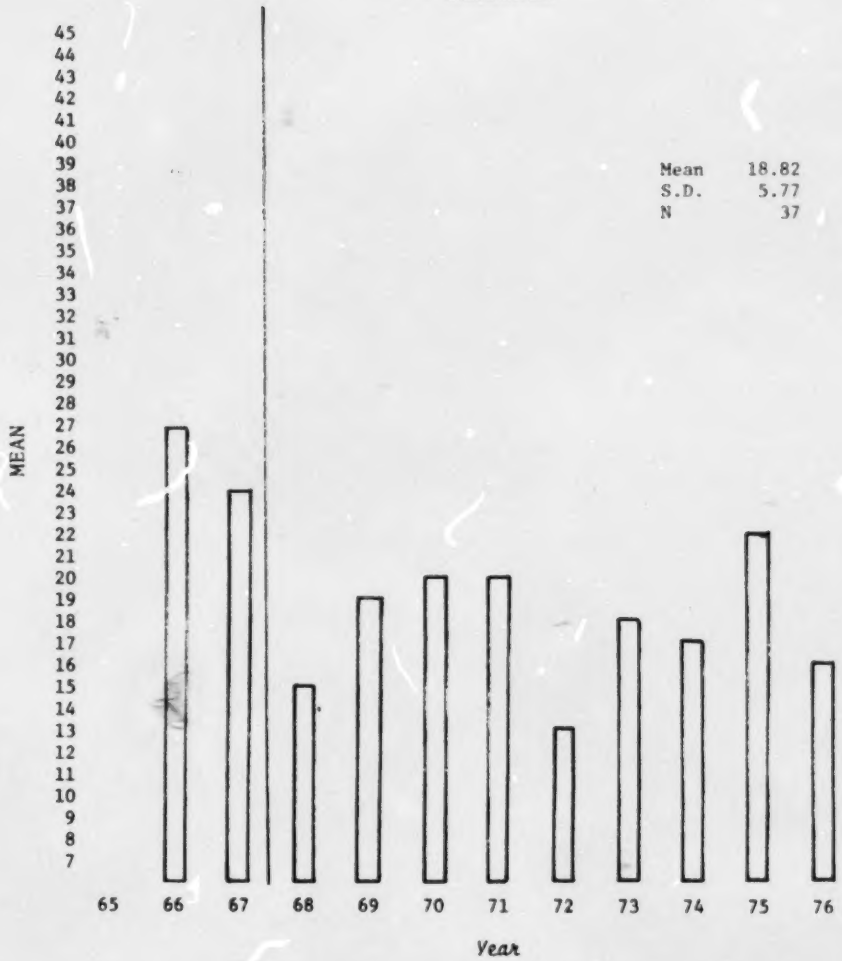
*Means for graph rounded off to nearest whole number

WINNECONNE Summary Table: WITS-Verbal I 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	2	48.00
1966	3	58.33	1972	3	40.66
1967	3	48.33	1973	4	46.75
1968	3	42.00	1974	4	60.75
1969	4	68.75	1975	3	33.66
1970	3	52.33	1976	3	46.33

WITS-Quantitative II-9th Grade
1965-1976*

WINNECONNE

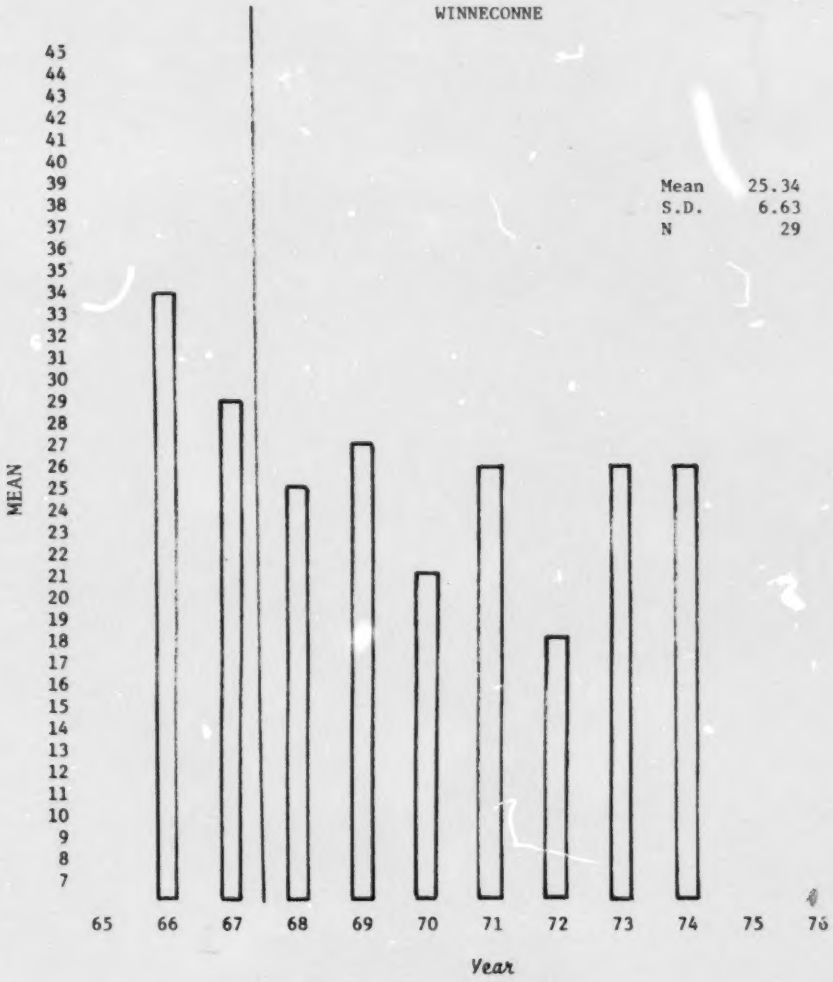


*Means for graph rounded off to nearest whole number

WINNECONNE Summary Table: WITS-Quantitative II 9th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	2	20.00
1966	3	27.33	1972	3	13.33
1967	3	23.66	1973	4	18.25
1968	3	15.33	1974	5	17.20
1969	4	18.50	1975	3	22.33
1970	4	19.50	1976	3	16.33

WITS-Quantitative II-11th Grade
1965-1974*



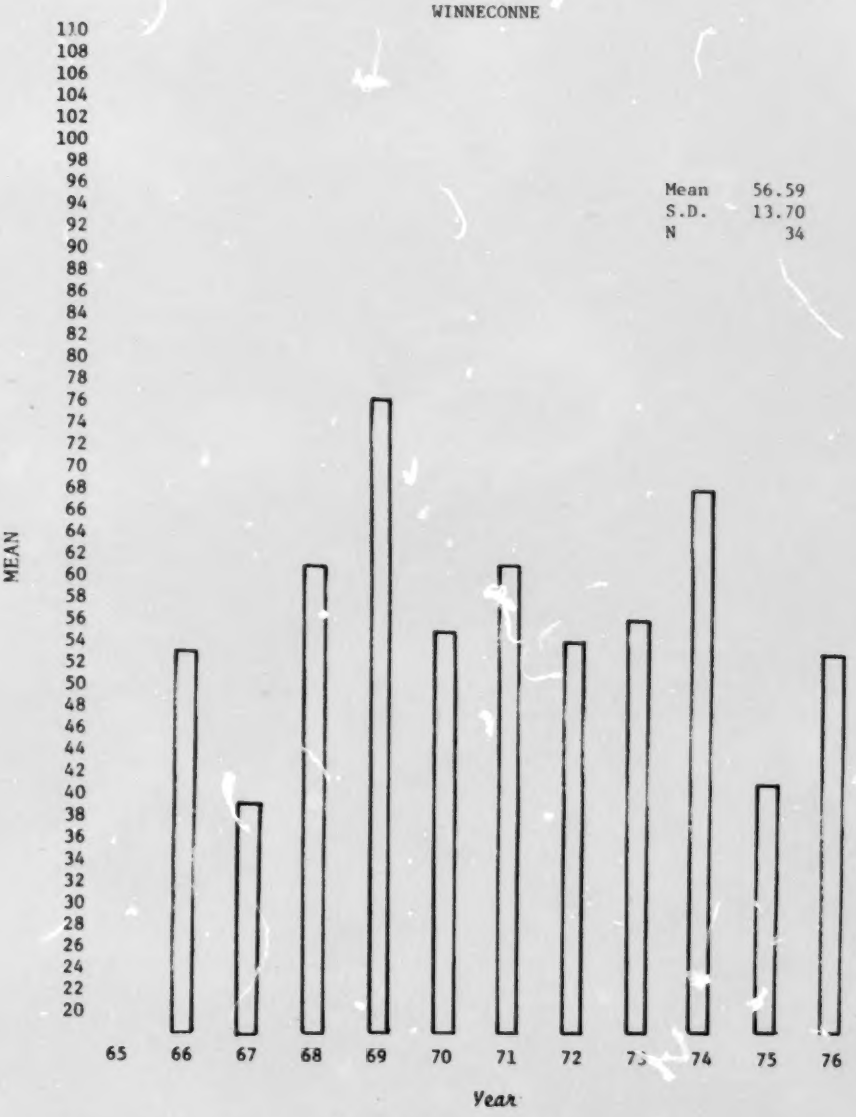
*Means for graph rounded off to nearest whole number

WINNECONNE Summary Table: WITS-Quantitative II 11th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	2	25.50
1966	3	34.33	1972	3	17.66
1967	3	29.33	1973	4	25.66
1968	3	25.33	1974	4	26.25
1969	4	26.75	1975	New Quantitative	
1970	3	21.33	1976	New Quantitative	

Terman Concept Mastery Test--1965-1976*

WINNECONNE



*Means for graph rounded off to nearest whole number

WINNECONNE Summary Table: Terman Concept Mastery - 12th Grade

Year	N	Mean	Year	N	Mean
1965	No Scores		1971	2	61.00
1966	3	53.00	1972	3	54.00
1967	3	39.00	1973	4	56.00
1968	3	60.66	1974	3	68.00
1969	4	76.00	1975	3	41.33
1970	3	55.33	1976	3	53.33

NEW QUANTITATIVE
(9th - 11th)

Table of Summary Data: WINNECONNE

TEST	N	School Mean	School S.D.
New Quantitative-9th	10	18.10	2.56
New Quantitative-11th	8	24.63	5.29

Total Lab Data for New Quantitative

TEST	Lab N	Lab Mean	Lab S.D.
New Quantitative-9th	125	15.02	5.14
New Quantitative-11th	119	23.09	6.67

TABLE OF COMPARISONS ON MALES AND FEMALES

WINNECONNE

TEST	(M) N	Male Mean	Male S.D.	(F) N	Female Mean	Female S.D.	Degrees of Freedom	T-Ratio	Significant at .05
WITS-Verbal 9th 1965-1976	21	32.33	10.47	17	38.24	12.98	36	1.5528	No
WITS-Verbal 11th 1965-1976	19	47.00	11.50	16	55.69	14.83	33	1.9516	Yes
WITS-Quant 9th 1965-1976	21	19.76	6.46	17	17.65	4.69	36	1.1295	No
WITS-Quant 11th 1965-1976	15	27.53	7.05	14	23.00	5.46	27	1.9255	Yes
TERMAN	19	55.16	11.98	15	58.40	15.86	32	.6796	No

VI. NEW LABORATORY NORMS 1971-1976

Section VI includes Laboratory norms for 1971-1976, except the New Quantitative Test which is normed from 1973-1976. In Section VII, we present the old Laboratory norms based on scores from 1960-1970. We include these old norms for information and comparison. A comparison of the old norms (WITS-Verbal 9 & 11, Terman) to the new norms (WITS-Verbal 9 & 11, Terman) indicates that Lab students as a group earned higher scores in 1960-1970 reflected by both a higher mean and median on all tests. However it is very important to note that the norms for 1960-1970 include many schools that are no longer in the Laboratory program and are not included in the norms for 1971-1976. Also, the math norms for 1960-1967 were based on the multiple choice format, and we have indicaced that this format greatly effected the scores.

NORM COMPARISONS

	Old	New
WITS-Verbal 9th		
N	1023	236
Mean	42	35
Median	40	33
WITS-Verbal 11th		
N	742	230
Mean	60	49
Median	59	47
TERMAN (CMT)		
N	1410	226
Mean	73	59
Median	71	54

9th Grade-Verbal

Percentile Values for the Wisconsin Inventory for Talented Students-Verbal I, based on the raw scores made by 236 ninth-grade students during the school year, 1971-1976. 100-item test.

Raw Scores	Percentile Values	Raw Scores	Percentile Values	Raw Scores	Percentile Values
74 & above	99	52	85	30	38
73	98	51	84	29	35
72	98	50	82	28	33
71	98	49	81	27	31
70	98	48	80	26	29
69	97	47	78	25	27
68	97	46	78	24	25
67	97	45	77	23	23
66	96	44	75	22	20
65	96	43	73	21	17
64	96	42	72	20	14
63	95	41	70	19	12
62	95	40	68	18	9
61	94	39	66	17	7
60	93	38	64	16	5
59	92	37	63	15	4
58	91	36	60	14	3
57	90	35	57	13	2
56	88	34	53	12	2
55	88	33	49	11	2
54	86	32	46	10 & below	1
53	85	31	42		

Total Number	236
Mean Score	35
S.D.	15
Median Score	33
Mode Score	34

11th Grade Verbal
(Repeat)

Percentile Values for the Wisconsin Inventory for Talented Students-Verbal I, based on the raw scores made by 230 students during the 1971-1976 school year. 100-item test.

Raw Scores	Percentile Values	Raw Scores	Percentile Values	Raw Scores	Percentile Values
90 & above	99	66	82	42	41
89	98	65	81	41	38
88	97	64	79	40	36
87	97	63	78	39	33
86	97	62	76	38	29
85	97	61	75	37	27
84	96	60	74	36	24
83	96	59	72	35	22
82	96	58	71	34	19
81	95	57	70	33	16
80	95	56	69	32	14
79	94	55	67	31	12
78	94	54	66	30	11
77	94	53	65	29	10
76	94	52	63	28	9
75	93	51	60	27	7
74	92	50	57	26	5
73	91	49	55	25	5
72	90	48	53	24	4
71	89	47	51	23	4
70	87	46	49	22	3
69	86	45	46	21	3
68	85	44	45	20	3
67	83	43	43	19	2
				18 & below	1

Total Number	230
Mean Score	49
S.D.	17
Median Score	47
Mode Score	39

9th Grade-Quantitative
(New Form)

Percentile Values for the New Quantitative based on raw scores made by 125 ninth-grade students during the school years 1973-1976. 40-item test.

Raw Scores	Percentile Values	Raw Scores	Percentile Values
28 & above	99	16	57
27	98	15	49
26	98	14	43
25	98	13	36
24	96	12	28
23	94	11	22
22	91	10	19
21	87	9	14
20	83	8	9
19	79	7	6
18	72	6	4
17	65	5 & below	1

Total Number	125
Mean Score	15
S.D.	5
Median Score	15
Mode Score	16

11th Grade-Quantitative
(New Form)
(Repeat)

Percentile Values for the New Quantitative based on the raw scores made by 119 eleventh-grade students during the 1973-1976 school years. 40-item test.

Raw Scores	Percentile Values	Raw Scores	Percentile Values
38 & above	99	21	41
37	98	20	34
36	98	19	27
35	97	18	23
34	96	17	21
33	94	16	17
32	91	15	13
31	87	14	9
30	82	13	5
29	77	12	5
28	74	11	2
27	71	10	2
26	66	9	2
25	62	8	2
24	58	7	2
23	53	6 & below	1
22	46		

Total Number	119
Mean Score	23
S.D.	7
Median Score	23
Mode Score	20

12th Grade-Terman

Percentile Values for the Terman Concept Mastery Test, based on the raw scores made by 226 twelfth-grade students from 1971-1976. 190-item test.

Raw Scores	Percentile Values	Raw Scores	Percentile Values	Raw Scores	Percentile Values
115 & above	99	[illegible]	85	49	35
114	98	81	84	48	33
113	98	80	82	47	31
112	98	79	81	46	28
111	97	78	80	45	26
110	97	77	80	44	24
109	97	76	79	43	22
108	96	75	79	42	21
107	96	74	78	41	20
106	96	73	77	40	18
105	96	72	75	39	16
104	95	71	75	38	15
103	94	70	75	37	14
102	94	69	74	36	13
101	93	68	73	35	12
100	93	67	71	34	12
99	93	66	70	33	10
98	93	65	68	32	9
97	93	64	66	31	8
96	92	63	64	30	7
95	92	62	63	29	6
94	91	61	63	28	6
93	91	60	61	27	6
92	91	59	59	26	6
91	91	58	57	25	5
90	90	57	56	24	4
89	90	56	54	23	4
88	89	55	52	22	4
87	89	54	50	21	4
86	89	53	48	20	4
85	88	52	45	19	3
84	87	51	42	18	2
83	86	50	38	17 & below	1

Total Number	226
Mean Score	59
S.D.	24
Median Score	54
Mode Score	50

VII. OLD [redacted] LABORATORY NORMS 1960-1970

9th Grade
VERBAL

Percentile values for the Wisconsin Inventory for Talented Students-Verbal, based on the raw scores made by 1023 ninth grade students during the school years, 1962-1970.

Raw Scores	Percentile Values	Raw Scores	Percentile Values
82 & above	99	42-43	54
80-81	98	40-41	46
78-79	98	38-39	41
76-77	98	36-37	36
74-75	97	34-35	30
72-73	96	32-33	24
70-71	95	30-31	19
68-69	93	28-29	15
66-67	92	26-27	12
64-65	89	24-25	8
62-63	87	22-23	6
60-61	86	20-21	4
58-59	82	18-19	2
56-57	80	16-17	2
54-55	77	14-15	1
52-53	73	12-13	1
50-51	70		
48-49	66	Total Number	1023
46-47	63	Mean Score	42
44-45	58	Median Score	40

11th Grade
VERBAL (Repeat)

Percentile values for the Wisconsin Inventory for Talented Students-Verbal, based on the raw scores made by 742 eleventh grade students during the 1964-1970 school years.

Raw Scores	*Percentile Values*
96 & above	99
94-95	99
92-93	97
90-91	95
88-89	95
86-87	94
84-85	92
82-83	90
80-81	88
78-79	85
76-77	82
74-75	79
72-73	74
70-71	70
68-69	67
66-67	63
64-65	60
62-63	55
60-61	51
58-59	47
56-57	41
54-55	37
52-53	32
50-51	27
48-49	24
46-47	20
44-45	17
42-43	13
40-41	10
38-39	8
36-37	7
34-35	5
32-33	4
30-31	3
28-29	2
26-27	1
24-25	1

Total Number	742
Mean Score	60
Median Score	59

9th Grade
QUANTITATIVE

Percentile values for the Wisconsin Inventory for Talented Students-Quantitative (IIR) based on the raw scores made by 705 ninth grade students during the 1964-1970 school years.

Raw Scores	Percentile Values
34 & above	99
33	98
32	98
31	98
30	96
29	95
28	93
27	92
26	88
25	84
24	81
23	77
22	73
21	68
20	62
19	55
18	46
17	38
16	31
15	25
14	19
13	14
12	10
11	6
10	4
9	2
8	1

Total Number	705
Mean Score	18
Median Score	18

11th Grade
QUANTITATIVE (Repeat)

Percentile values for the Wisconsin Inventory for Talented Students-Quantitative (IIR) based on the raw scores made by 346 eleventh grade students during the 1967-1970 school years.

Raw Scores	*Percentile Values*	*Raw Scores*	*Percentile Values*
43 & above	99	25	44
42	98	24	39
41	98	23	32
40	97	22	25
39	96	21	20
38	94	20	14
37	93	19	10
36	91	18	8
35	87	17	7
34	86	16	5
33	83	15	3
32	81	14	2
31	75	13	1
30	72		
29	68	Total Number	346
28	62	Mean Score	26
27	56	Median Score	26
26	50		

12th Grade
TERMAN

Percentile values for the Terman Concept Mastery Test, based on the raw scores made by 1410 twelfth grade students from 1960-1970.

Raw Scores	Percentile Values	Raw Scores	Percentile Values
140 & above	99	65-69	39
135-139	98	60-64	30
130-134	97	55-59	22
125-129	96	50-54	16
120-124	95	45-49	10
115-119	94	40-44	6
110-114	92	35-39	4
105-109	89	30-34	2
100-104	86	25-29	1
95-99	83		
90-94	78	Total Number	1410
85-89	72	Mean Score	73
80-84	66	Median Score	71
75-79	58		
70-74	49		

VIII. GLOSSARY OF TERMS

MEAN:	The sum of a set of scores divided by the number of scores.
MEDIAN:	The middle score in a set of ranked scores. It is the point above or below which an equal number of ranked scores lie. It corresponds to the 50th percentile.
MODE:	The score of value that occurs most frequently in a distribution.
N:	Number of subjects or number of test scores.
NORMS:	Summarized statistics that describe the test performance of reference groups of pupils of various ages or grades in the standardization groups for the test.
PERCENTILE:	One of the 99 point scores that divide a ranked distribution into groups, each of which contains 1/100 of the scores. It is a score in a distribution below which falls the percent of cases indicated by the given percentile.
RANGE:	The difference reflected by noting the lowest and the highest scores obtained on a test by same group.
REFERENCE POPULATION:	The total population from which a sample is selected for measurement.
STANDARD DEVIATION (S.D.):	It is a statistic used to express the extent of the deviations from the mean of the distribution.
VARIABILITY:	The spread or dispersion of scores, usually indicated by quartile deviations or standard deviations.
T-RATIO:	Index of the extent of the difference between the mean scores of two groups.
DEGREE OF FREEDOM (D.F.):	The number of subjects minus 1. As the D.F. increases, the T-table values decrease, thus making it easier to find a significant difference.
SIGNIFICANT at .05:	Significance indicates a conclusion that the populations have truly different means. The .05 level indicates that this conclusion could be incorrect 5 times out of 100.